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CHAPTER I

THE LAND AND THE PEOPLE

India is a land of great variety in terrain, race, language, religion and cultural patterns. Underlying this diversity is the fundamental unity of the people, based on common ideals and traditions shared over several centuries. Time and again, in the course of history, great rulers have welded most parts of the country into a homogeneous political structure. Even when the people were wanting in political cohesion, their unity was maintained by the cementing force of a common way of life and culture. These ancient bonds of unity have been strengthened by the struggle for freedom and the common endeavour to attain well-defined social and economic objectives.

A very large country—the seventh largest in the world—India sprawls about 3,219 km. from the icy heights of the Himalayas in the north to the tip of Cape Comorin, washed by the waves of the Indian Ocean, in the south. It spreads 2,977 km. from west to east. The country's 5,689 km. of coastline, 15,168 km. of land frontier and 32,76,141 sq. km. of area encompass geographical conditions, climate, scenery and people as diverse as those in Europe or the Americas. Here are some of the highest peaks, the most extensive plains and the wettest, the hottest and the coldest regions in the world.

The great land mass of India falls into three natural regions : the Himalayas in the north, the Deccan Plateau in the south and the Indo-Gangetic Plain in between. The word 'Himalayas' means "the abode of snow". In the Himalayas rise some of the tallest peaks in the world. Mount Everest (8,850 metres) is the highest point on earth. The beautiful

vales of Kashmir and Kulu and the sources of India's mightiest rivers lie in these ranges. The Himalayas shield the country from the freezing winds which sweep across Asia from the north. They intercept the moisture-laden monsoons from the Arabian Sea and the Bay of Bengal in June and July and precipitate the precious rain. It is interesting to note that the area now occupied by these great mountains was deep sea till a late period in the Earth's geological history.

South of the Himalayas lies the Indo-Gangetic Plain, which is watered by the Sutlej, the Yamuna, the Ganga and the Brahmaputra. It is one of the world's greatest stretches (7,77,000 sq. km.) of flat alluvium and also one of the most densely populated areas. This tract has been the cradle of Aryan civilisation, a seat of great empires and the scene of remarkable achievements. On the river Yamuna lies Delhi, the capital of India. On the Ganga is the picturesque city of Varanasi, a great centre of Hindu faith and learning. Here, in the Deer Park at Sarnath, the Buddha gave his message of compassion to suffering humanity. Further to the east is Patna, formerly Pataliputra, the capital of Asoka the Great. Between Patna and Calcutta, the largest city of India, lies India's Ruhr, a great industrial area rich in coal, iron and many other minerals.

The triangular peninsula in the south has the Vindhya Hills for its base and the craggy Eastern and Western Ghats lapped by the waves of the sea on either side. With the exception of the Narmada and the Tapti which flow westwards, its great rivers, *viz.*, the Mahanadi, Godavari, Krishna and Kaveri, flow eastwards into the Bay of Bengal. The mountain ranges of the Eastern and the Western Ghats converge on the Nilgiris (Blue Mountains) on which nestles Octacomund, the premier hill-resort of the South. In the north-west of the peninsula lies Bombay, India's chief emporium for trade with the West. About 400 km to the north-east of Bombay are the renowned cave paintings and sculp-

tures of Ajanta and Ellora. Down south along the narrow stretch of the west coast are the luxuriant tropical forests and the peaceful lagoons of Kerala. The peninsula is a great seat of Indian culture which finds expression in huge temples and in classical dance, drama and music. They remain an integral part of life in South India.

Climatic conditions vary greatly in India. Broadly speaking, the country experiences five seasons : summer, the monsoon or rainy season, autumn, winter and spring. In summer—April to June—the climate is generally hot, though the many hill-resorts in the country are delightfully cool at this time. The monsoon rains, between June and September, convert the dry, thirsty land into a vast expanse of glistening verdure. Between September and November, the country has a brief spell of autumn, neither warm nor cold. Winter (November to January) and spring (February to March) are pleasant indeed. North India is at times quite cold during these months and there is snowfall in the hills.

Resources

India has a rich potential for power. The resources of coal are estimated at 12,136 crore tonnes and of lignite at 353 crore tonnes. A tentative estimate places the oil-bearing areas at over 10 lakh sq. km or 4,00,000 sq. miles. An assessment of the country's oil resources can, however, be made only in the light of the extensive explorations now in progress. The hydro-electric potential of the country is estimated to be about 4.1 crore kw.

India's iron ore resources have been assessed at one-fourth of the world's total. This country is the most important producer of mica in the world and has the third largest deposits of manganese. There are abundant deposits of chromite, magnesite and other refractories. In non-ferrous metals, however, India is not so well off. Gold, copper and aluminium are the only non-ferrous metals produced in any

quantity. The most important mining area in India is the region comprising south Bihar, south-west Bengal and north Orissa. Ilmenite occurs in the sands of the Kerala coast. Monazite and beryl, the atomic minerals, are found in Kerala and Rajasthan States. Bihar has sites which might prove exploitable sources of uranium.

Forests cover about 22 per cent of the total geographical area of India. Teak, ebony and bamboo are found in plenty. Apart from providing the raw material for some industries, the forests also yield many minor products. The forests of the country are inhabited by a variety of rare animals such as the one-horned rhino, the Asian lion and the black buck.

The People

India ranks second in the world in respect of population, which is 43,90,72,582 according to the 1961 census report. Its people today are the descendants of many races which had migrated to this country in the past and intermingled in the course of centuries. The Dravidians, Aryans, Greeks, Mongols, Arabs, Turks, etc., have all contributed to the racial stock of India.

The density of population is about 138 per square kilometre. The life-expectancy of an average Indian is about 50 years.

India is still mainly an agricultural country and 82 per cent of the Indian people live in villages. In the recent past, however, there has been a slow but steady shift towards urbanisation and a preference for occupations in industry, commerce, the services and professions. According to the 1961 census, there are 2,699 towns and 5,66,878 villages in India. There are 107 cities with populations exceeding 1,00,000. The first eight are : Greater Bombay (41,52,056), Calcutta, not including suburbs (29,27,289), Delhi (23,59,408), Madras (17,29,141), Hyderabad (12,51,119),

Ahmedabad (12,06,001), Bangalore (12,06,961) and Kanpur (9,71,062).

Almost all the principal religions of the world are represented in India. About 84 per cent of the people are Hindus and 11 per cent are Muslims, while Christians, Sikhs, Buddhists, Parsis, Jains, Jews and others constitute the remaining 5 per cent. Christianity was brought to India soon after Christ's death, by St. Thomas the Apostle. Even after the Partition of 1947, India has the third largest Muslim population in the world.

There are fourteen major languages, including Sanskrit, which have been listed in the Indian Constitution. Among them, Assamese, Bengali, Hindi, Gujarati, Kashmiri, Marathi, Oriya and Punjabi trace their origin to Sanskrit. Even the four Dravidian languages of South India—Tamil, Telugu, Kannada and Malayalam—have been strongly influenced by the Sanskrit vocabulary and literature. The Urdu language is a joint product of Persian, Arabic and Hindi. The dialects of the tribal people, who represent some of the earliest inhabitants of India, form another group of languages. Hindi, which is more widely spoken than any other language, has been chosen as the official language of the Indian Union. English too continues to be in use.

National Symbols

The national emblem of India is an adaptation from the lion-capital erected by Emperor Asoka in the 3rd century B.C. at Sarnath (U.P.). It shows three lions at the top and the Wheel of the Law, flanked by a bull and a horse on the abacus. The words "Satyameva Jayate" from the ancient scriptures, meaning "Truth alone triumphs", are inscribed below the emblem in the Devanagari script.

The national flag of India is a horizontal tricolour of deep saffron on the top, white in the middle and dark green at the bottom in equal proportions. In the centre of the

white band is a wheel in navy blue which is a replica of the Wheel of the Law in the Sarnath lion-capital.

Nobel-laureate Rabindranath Tagore's famous song *Jana-gana-mana* has been adopted as the national anthem of India.

India has chosen the colourful peacock as her national bird. Apart from its arresting beauty, the bird has a close association with Indian mythology and culture.

Chapter II

HISTORY AND HERITAGE

India's civilisation is among the world's most ancient civilisations. What is particularly remarkable is its amazing continuity. Excavations have revealed the existence of a mature civilisation in India around 3000 B.C., if not earlier. Known as the Indus Valley Civilisation, it had some affinity with the ancient civilisations of Persia, Mesopotamia and Egypt.

During those early times in history, India had several well-developed urban centres in its north-western region—Mohenjo-daro, Harappa, Lothal and Rupar. Houses built of baked bricks, broad streets, an elaborate system of drainage and public baths, fine clay pottery, weapons made of copper and bronze, beautiful ornaments of gold and ivory and innumerable terracotta figurines reveal the high level of culture attained by the people of Mohenjo-daro. They used a pictorial script which has yet to be deciphered. Besides agriculture, many industries flourished and cotton fabrics and other products were exported to the West Asian countries. Whether this pre-Aryan civilisation was destroyed by some natural catastrophe or by the invading Aryans is not clearly known.

Indo-Aryans

The Aryans entered India from the north and north-west in successive waves. The first Aryan settlement in India was, according to available evidence, established in the Punjab region about 2000 B.C. From this area, the Aryans spread eastwards and occupied the whole of North India. In course of time, they penetrated into South India also.

At first, there were the inevitable conflicts between the earlier inhabitants, believed to be the Dravidians, and the Aryan settlers. But, gradually in the course of time, there came about an intermingling of these races, with a consequent exchange of influences and ideas in the fields of religion, language, culture, and in social and economic life, etc.

Unlike the non-Aryans, the Aryans were mainly a pastoral people. The patriarchal family was the unit of their tribal life. The tribal chief, known as the *Raja,* ruled on the advice of a popular assembly. The early Aryans were a strong and vigorous race with a zest for life and their occupations were cattle-raising and war. After settling down in India, they adopted agriculture as their principal occupation. Their tribal settlements later grew into great cities and mighty kingdoms.

The *Rig Veda,* which is the oldest literature of India and, perhaps, of the world, gives a vivid picture of the life of the Aryans when they first settled in the Punjab region. Apart from its philosophical significance, the *Rig Veda* has great literary merit as well. It is interesting to note that, even in those days, the Indian mind could conceive of such universal ideas as, "Truth is one, (though) the wise call it by various names", and "let noble thoughts come to us from every side". Throughout her long history, India has been actively conscious of these liberal ideas.

Three more Vedas were composed later. They are called the *Sama Veda,* the *Yajur Veda* and the *Atharva Veda* (The word 'Veda' means 'knowledge'). The Vedas are collections of hymns, prayers, and invocations. Certain supplementary writings—the "Brahmanas" and the "Upanishadas"—are also considered to be part of the Vedas. These works comprise the basic scripture of the Hindus. The Upanishadas contain bold and searching enquiries into the spiritual field. "Truth wins ever, not falsehood. With truth is paved the road to the divine", they proclaim. An invocation in the Upani-

shadas says : "Lead me from the unreal to the real ! Lead me from darkness to light ! Lead me from death to immortality !"

The philosophy contained in the Upanishadas came to be known as the Vedanta (end of the Veda). The essence of this philosophy, which is essentially one of monism, can be expressed in the concise phrase, *'Tat-twam-asi'* (Thou art that). This universal philosophy cuts across the frontiers of all religions.

There is a supplementary section of the Vedic literature known as the "Upavedas" (subsidiary Vedas). It deals with secular subjects like medicine, war, music, art and architecture. This shows that the ancient Indian thought did not confine itself to metaphysics alone.

There were no social divisions among the Aryans in the beginning. Later, as they had to deal with the conquered races and the growing specialisation of economic functions, they grouped the society into four flexible divisions : (1) Brahmins—priests and thinkers, (2) Kshatriyas—rulers and warriors, (3) Vaishyas—agriculturists, artisans and merchants, and (4) Shudras—labourers and workers. Many tribes of the original inhabitants were included in the last category. Communities like the sweepers, who were supposed to be doing unclean work, were kept out of the four groups. Instead of exterminating or enslaving the conquered races, the Aryans accommodated them in their social set-up.

This four-fold division of the Aryan society later degenerated into innumerable rigid castes. The castes led to the weakening of the society. Even the new exotic religions, which did not believe in the caste system, were influenced by it when they struck roots in the Indian soil. The lowest castes, called the 'untouchables', suffered under this system. The national movement under Mahatma Gandhi, therefore, included the eradication of untouchability and the removal

of caste distinctions as one of its major tasks. Untouchability has now been abolished and caste has gradually lost its rigidity.

The Epics

From Vedic literature one comes to the epics which reveal a new world. There are two epics—the *Ramayana* and the *Mahabharata*. For more than twenty-five centuries, they have exercised a continuous and pervasive influence on the Indian people. In olden days, when communications in the vast country were difficult, the epics built up a unity of outlook among the people which is preserved even today. Believed to have taken shape considerably before the 6th century B.C., the epics presented a pantheon of new gods in place of the Vedic nature-worship, and reflected a complex social and political set-up to replace the simple life of the early Aryans. Originally composed in Sanskrit, they were later rendered into the various languages of India and also translated into many foreign tongues.

The *Ramayana* was written by Sage Valmiki in a simple but grand style. It is the story of Prince Rama, who, after undergoing many privations, destroys the demon-king Ravana. Rama and his consort Sita are considered to be the ideal man and woman and their life sets the model for conduct. The Hindus consider Rama and Sita as the incarnations of God and the Divine Mother. Millions chant Rama's name daily. When Mahatma Gandhi was struck down by the assassin's bullets, his last words were, "Hey Ram, hey Ram!" (Oh Ram, oh Ram)

The *Mahabharata,* an outstanding book in the world's literature, contains 1,20,000 verses in Sanskrit. Tradition has it that Sage Vyasa wrote this book, but historians believe that many successive poets contributed to it. This great epic of ancient India relates the story of the gigantic war between the one hundred Kaurava brothers, representing Evil, and

their five cousins, the Pandavas, who represent Good, and how the Good ultimately triumphs in spite of all odds. Unlike the *Ramayana*, which has a unity of treatment, the *Mahabharata* digresses into innumerable anecdotes which are only loosely connected with the main theme.

The *Bhagavad Gita* (the Lord's Song) forms a part of the *Mahabharata*—a part which is even more important than the whole. The appeal of this profound philosophical poem is as strong today as it was many centuries ago. Gandhiji respected it as his mother. Jawaharlal Nehru said: "In times of crisis, when the mind of man is tortured by doubts and is torn by conflict of duties, it has turned all the more to the *Gita* for light and guidance."

The *Gita* contains conversations between Arjuna, the Pandava prince, and Krishna his true friend and benefactor. (Krishna is considered by the Hindus as one of the incarnations of God). On the eve of battle, Arjuna is hesitant to fight his kith and kin for the sake of gaining a kingdom. In the battle-field, Krishna expounds to him, and through him to the world, the idea of duty of the individual and the ethics and purpose of human life. It is a stirring call to action to meet the obligations of life given against a spiritual background. The following passages from the *Gita* well illustrate this doctrine of 'Karma' or action:

> "Hold alike pleasure and pain, gain and loss, victory and defeat, and gird up thy loins for the fight; so doing thou shalt not incur sin."
>
> "Action alone is thy province, never the fruits thereof; let not thy motive be the fruit of action, nor shouldst thou desire to avoid action."
>
> "Better one's own duty, bereft of merit, than another's well-performed; better is death in the discharge of one's duty; another's duty is fraught with danger."
>
> "To save the righteous, to destroy the wicked, and to re-establish Right, I (God) am born from age to age."

"In whatever way men resort to Me, even so do I render unto them. In every way, O Partha, the path men follow is Mine."

"Know that knowledge whereby one sees in all beings immutable entity, a unity in diversity........"

"Abandon all *dharmas* (Laws) and come to Me, the only refuge. I will release thee from all sins; grieve not".

Apart from the two epics, eighteen other narratives known as the 'Puranas' were compiled. They contain a mixture of mythology, philosophy, history and the sacred laws. They were meant for guiding the unlettered sections of the people.

Buddhism and Jainism

After the epic period, we come to the sixth century B.C., which was full of spiritual upheavals. Many schools of philosophy, including that of atheism, sprang up during this period. The most important among them were Buddhism and Jainism.

Gautama, the founder of Buddhism, hailed from a royal family. He had all the comforts and luxuries of life, but renounced everything and went to the forest in search of Truth. For some years, he underwent the severest penances, but eventually gave up asceticism as futile. Then, one day, while meditating under a *pipal* tree, he got Enlightenment. Gautama thus became the 'Buddha' (the Enlightened One). For forty-five years, he preached his doctrine and passed away at the age of eighty.

Instead of appealing to blind faith, the Buddha appealed to reason, logic, experience and ethics. He avoided both the extremes of self-mortification and self-indulgence and showed the 'middle path'. He said that there was sorrow in life and that desire was the cause of sorrow and he prescribed the "Eight-fold Path" to remove this cause. He also laid down five ethical principles (*Panch Sheel*) to be followed by all : Not to kill any living being, not to take what

is not given to one, not to lie, not to take intoxicating drinks and not to be unchaste. The Buddha accepted the doctrine of *Karma* and rebirth, a feature of traditional Hinduism. According to the theory of *Karma,* one's actions in the previous births determine one's condition in the present existence. The Buddha believed that the highest good was deliverance from the cycle of rebirth. The Enlightened One ignored the question of the existence of God.

The Budha set up a *Sangha* (association) for spreading his doctrine. He told his disciples, "Go unto all lands and preach this gospel. Tell them that the poor and the lowly, the rich and the high, are all one and that all castes unite in this religion as do the rivers in the sea".

Vardhamana Mahavira, the last among the apostles of Jainism, was also, like his contemporary, the Buddha, a member of a royal family. He renounced his high rank, became an ascetic and later moved among the people for more than thirty years to preach his doctrine.

The Jains believe that even animals, plants, etc., have souls and that one should not inflict pain on anybody or anything. They do not have a supreme deity and God to them is only the highest, noblest and fullest manifestation of man's latent powers. One should lead an ethical life with austerity and severe self-control. *Ahimsa* or non-hurting of any kind of life is the basis of ethical living.

Both Buddhism and Jainism started as movements for reforming Hinduism but settled down as separate sects. At the height of their growth, they spread all over the country and Buddhism reached many foreign lands too.

Some of the tenets of traditional Hinduism, such as, the authority of the Vedas, rituals and caste distinctions, were rejected by Buddhism and Jainism. Hinduism not only tolerated these deviations, but absorbed and assimilated many ideas of the new sects. This tolerance and this tendency to assimilate have been the hallmark of Indian

culture throughout history. The doctrine of *Ahimsa* or non-violence received a stronger emphasis in Hinduism and ritualism was modified to a great extent. Hinduism also developed the doctrine of *bhakti* (simple and intense devotion to and faith in a personal God) which gradually grew into a mighty movement. Eventually, Buddhism declined in the land of its birth. Jainism was also weakened, but it has continued to thrive in cordial relationship with Hinduism.

Contacts with Greece

By the fourth century B.C., a big and powerful kingdom had arisen in Magadha (modern Bihar). About this time, Alexander the Great of Greece invaded the north-western region of India. He was stoutly resisted by King Porus, the ruler of one of the States in the Punjab. King Porus was taken prisoner after he had received nine wounds on his person in the fierce, but unequal encounter. Alexander wanted to advance further into India, but his homesick soldiers refused. On his way back, Alexander died at Babylon.

The Greek authority in north-west India vanished soon after Alexander's death, but the episode had important repercussions. It gave a fillip to the movement for political unification of India under a strong central government. It also marked the beginning of continuous contacts between the two ancient civilisations of India and Greece. Trade between India and Greece increased greatly. Indian art, particularly sculpture, was influenced by the Hellenic style and a new style of sculpture, called the Gandhara School, was born. The art of making coins improved greatly through the contact with Greece. The philosophic and religious ideas and the learning of India reached Europe through the Greeks.

The First Empire

Soon after Alexander's death, Chandragupta Maurya raised the banner of nationalism and recaptured the occupied

Indian territory from the Greeks. He then marched on to Magadha and overthrew the Nanda dynasty. When Seleucus, one of the generals of Alexander, tried to recapture the lost territory, he met with a sound defeat at the hands of Chandragupta. Seleucus had to cede territory, and also gave his daughter in marriage to Chandragupta. Chandragupta Maurya conquered many more territories and established the first big empire in India. The Mauryan Empire, at its peak, covered the whole country except the southern tip. The government was strong and centralised.

In all his adventures, Chandragupta was helped by Chanakya, his preceptor and friend. Also known as Kautilya, this Brahmin was a great scholar and statesman—bold, scheming, able and ruthless. His renowned book, the *Arthashastra,* is a complete treatise on the art of government. It discusses many subjects, such as war, secret service, local administration, law, taxation and revenue, agriculture, industry and commerce.

A Unique Emperor

Asoka, the grandson of Chandragupta, was a great emperor, unique in many ways. He waged only one war and that came to be the turning point in his career. He won that war against Kalinga (modern Orissa), but the terrible slaughter of men filled him with remorse. Asoka, therefore, abandoned war for ever and turned to nobler conquests. He became a Buddhist and spread the Buddha's message in India and the whole of East Asia. He gave up hunting and the eating of meat. He took keen interest in the material and moral welfare of his subjects. He was a patron of the arts, especially of sculpture and architecture. As mentioned earlier, the national emblem of India and the wheel in the national flag have been taken from Asoka's lion-capital.

Asoka spread the teachings of the Buddha and his own

messages through inscriptions on rocks and stone pillars which he erected in various parts of his empire. Many of these edicts still stand as monuments to Asoka's greatness. Passages from the edicts, given below, illustrate his ideals of respect for life, peace, tolerance and service to humanity :

"......Directly after the annexation of the Kalinga began His Sacred Majesty's zealous protection of the Law of Piety, his love of that Law and his inculcation of the Law. Thus arose His Sacred Majesty's remorse for having conquered the Kalingas, because the conquest of a country previously unconquered involves the slaughter, death and carrying away captive of the people. That is a matter of profound sorrow and regret to His Sacred Majesty."

"......His Sacred Majesty desires that all animate beings should have security, self-control, peace of mind and joyousness."

"......at all hours and in all places—whether I am dining, or in the ladies' apartments, or in my private room, or in the mews, or in my conveyance, or in the palace gardens—the official reporters should report to me on the peoples' business; and I am ready to do the peoples' business in all places."

"A man must not do reverence to his own sect or disparage that of another man without reason. Depreciation should be for specific reasons only, because the sects of other people all deserve reverence for one reason or another. By thus acting, a man hurts his own sects and does disservice to the sects of other people."

Post-Asokan Period

The Mauryan empire gradually disintegrated after Asoka. A Hindu dynasty came to power in Magadha. In the Andhra region, the Satavahanas set up a powerful kingdom and ruled for about three centuries. They erected many

beautiful buildings and statues at Amaravati and Nagarjunakonda. They also started work on the famous Ajanta cave paintings which are a famous tourist attraction.

About this time, the north-western region of India was again captured by the Greeks. Menander, one of the Greek kings was the beloved of the people. He embraced Buddhism and his philosophic discussions are recorded in a book called *The Questions of Milinda.*

By the first century A.D., many nomadic tribes had entered India through the mountain-passes in the north-west. In course of time, they were all Indianised. Kanishka, the chief of one of these tribes built up an empire with Peshawar as the capital. He became a patron of Buddhism and convened a Buddhist Council to discuss grave religious problems. At this time, a big schism had arisen and the Buddhists were divided into two sects—the Hinayana and the Mahayana. The Hinayanists believed in the traditional intellectual doctrine, whereas the Mahayanists adopted new interpretations. The Mahayanists started worshipping the Buddha as a living saviour and their ritualism had a strong appeal to the ordinary people. It was Mahayana Buddhism which spread to China. Nagarjuna, a great scholar in the Court of Kanishka, formulated and propagated the Mahayana ideas. Asvaghosha, a poet and Buddhist scholar, was also patronised by the King. Charaka, the most celebrated medical scientist of ancient India, is believed to have been Kanishka's court-physician. The Kushan empire built by Kanishka was dissolved by the third century A.D.

In the first century of the Christian era, another important event took place. St. Thomas the Apostle came to South India soon after the crucifixion of Christ and set up the first Christian church in the country. Earlier, some Jews had come to India and settled on the west coast.

In the beginning of the Christian era, there were three Tamil dynasties in South India. They were the Cholas, the

Pandyas and the Cheras. The Pandya kings did a lot for the promotion of learning by setting up academies for encouraging literature. Many anthologies, which form the rich classical literature of the Tamil language, were compiled under their patronage. The most famous of these books is the *Kural* which has been translated into many languages of the world.

The Golden Age

In the 4th Century A.D., the Guptas set up a powerful empire in Magadha. It later expanded to cover the vast area from the base of the Himalayas in the north to Kanchi (near Madras) in the south. The Gupta empire lasted for more than three centuries and this period is known as the golden age in Indian history. It was during this period that Fa-hien, the Chinese scholar, visited India.

The Guptas set up a benevolent government. Though they were Hindus, complete religious freedom was allowed to the Jains and the Buddhists. Crimes were very rare in the vast empire. The Gupta rulers gave great encouragement to the arts and sciences and there was an upsurge of creative activity in every direction. The finest specimens of Indian sculpture in various media belong to the Gupta period. The rust-proof iron pillar near the Qutb Minar in Delhi is a monument to the highly advanced state of metallurgy in India during the Gupta period. Many of the best paintings in the Ajanta caves were also created during this period.

The Sanskrit language too was nurtured by the Guptas. Panini wrote his great grammar of Sanskrit in the 7th century B.C. After the advent of Buddhism, Sanskrit was not much in vogue. The Guptas gave it a new lease of life. Kalidasa, the greatest Sanskrit poet and dramatist, is believed to have lived in the Gupta period. *Abhijnana Sakuntalam,* the most famous of his plays is highly appreciated both in the East and the West. Many other classical works in Sans-

krit were compiled during the Gupta period. The university at Ujjain, which was patronised by the Guptas, became a great centre of learning along with those at Banaras, Taxila and Nalanda.

Mathematics and astronomy made rapid progress during the Gupta period. In fact, geometry, arithmetic and algebra were known to the Indians since the remote past. The idea of 'zero' in arithmetic is India's contribution to mankind's knowledge, as also the method of denoting all numbers by means of ten symbols. Many great books on mathematics were written between the 8th century B.C. and the 12th century A.D. The ancient Indian mathematicians had divided time upto one-seventh of a second. Aryabhatta, Varahamihira and Brahmagupta were the most eminent writers on these subjects during the Gupta period.

The best-known text-books on medicine date from the early Christian era. Charaka, the eminent physician, wrote a treatise on medicine, while the famed Sushruta produced a monumental work on surgery. These books deal with a very large number of diseases, prescribing effective remedies and describing complicated surgical operations. Various surgical instruments for different kinds of operations—from amputation of limbs to treating of cataract—were in use. In the Gupta empire, medical facilities were freely available to the people.

A Dark Interlude

The Golden Age of the Guptas was followed by the dark period of the White Huns who descended upon India from Central Asia and demolished the Gupta edifice. Like Attila's Huns in Europe, they massacred people and plundered and burnt the towns and villages. They also set up their own kingdom in the north-western region. But their misrule lasted only for a short period. Yashodharaman (533 A.D.),

a prince from Central India, broke the power of the Hun King. The Huns were later absorbed into the Indian society.

King Harsha

After the Guptas, the most notable king was Harsha who reigned in the first half of the 7th century. He conducted many campaigns and brought almost the whole of North India under his control. He was an accomplished scholar. Banabhatta, a great Sanskrit poet, lived at his court. Harsha, emulating Asoka, gave much encouragement to Buddhism. It was during Harsha's time that Hiuen Tsang, the famous pilgrim-scholar of China, visited India.

After Harsha, the centrifugal forces became dominant and, during the next six centuries, innumerable kingdoms rose and fell. This period was marked by the ascendancy of the Rajputs in many parts of North India. Believed to have descended from foreign and Indian tribes, they claimed to belong to the warrior-caste (Kshatriyas) and with their prowess, they set up many kingdoms. The Rajputs were brave warriors, indeed, who preferred death to defeat. Their women-folk were equally heroic—they would rather burn themselves to death than fall into enemy hands. But there was no unity among the Rajput princes and this was an important reason for their downfall and the subsequent rise of Afghan and Mughal power in India.

In South India

During Harsha's time, Pulakesin II of the Chalukya dynasty reigned in the Deccan region. He foiled the attempt of Harsha to enter South India. Pulakesin was later routed by the Pallava king of Kanchi, from the deep south. The Pallavas were great builders and are still remembered for their magnificent rock-cut temples and pagodas at Mamallapuram near Madras.

The Hoysalas held sway in the Mysore region in the 12th

and 13th centuries. They built many temples with excellent sculptures and rich carvings. The best example of Hoysala architecture can be seen in the temple at Halebid, in Mysore.

The Cholas, one of the three Tamil dynasties, gained hegemony over most parts of southern India towards the end of the 10th century. King Rajendra Chola defeated the ruler of the Bengal-Bihar region. The Chola navy also conquered Ceylon and parts of Sumatra and Malaya. The Chola administration was very well organised, with efficient local governments. They built huge temples with sky-scraping towers which have become typical of South India. The Chola period is also famous for its fine sculptures. The Chola kings also gave much encouragement to literature—Kamban, the greatest Tamil poet, adorned their court.

THE THREE GREAT TEACHERS

Three religious teachers who hailed from South India created more enduring values than did kings and warriors. Sankara, the great philosopher (8th century (A.D.), was born in Kerala, the southernmost part of India, and passed away at Kedarnath in the Himalayas—symbolising the basic unity of India. In the 32 years of his life, he travelled all over the country and revived Hinduism. His "Advaita" (non-dualism) philosophy spread throughout India. The four monasteries he set up in the different corners of the country are still flourishing.

Sage Ramanuja, who came two centuries after Sankara, was another spiritual leader from the South. His "Visishtadvaita" philosophy (qualified non-dualism) won many adherents in various parts of the country. His was a great equalising movement. It was known as the Bhakti cult, and stressed the importance of simple faith in and surrender to God, irrespective of caste, status, scholarship, etc. This was taken up by many other seers in different parts of India—

Kabir, Nanak, Dadu, Chaitanya, Tukaram, etc.—whose songs are still popular among the masses.

Madhva, who was born towards the middle of the 13th century in the Kannada area, was the third great religious teacher. According to his pluralistic philosophy, known as "Dwaita", souls are born out of Brahma—the Supreme Being or God. After that, they become separate from God for eternity. A soul then is in the position of a servant in relation to God. He also stressed the importance of simple devotion or Bhakti. Sankara came to have a large following in the South as also in other parts of India.

Indian Culture in South-East Asia

India had extensive contacts with South-East Asia in the early centuries of the Christian era. Hinduism and Buddhism, besides trade, were the vehicles for this cultural intercourse. Indian culture has survived in many places. Dance-dramas based on the Indian epics, the *Ramayana* and the *Mahabharata* are still enacted and spectacular monuments to Indian culture are found even today in Indonesia, Indo-China, Thailand and Cambodia.

The Sultans of Delhi

The Arabs had been maintaining close and friendly contacts with South India since very early times. Conflicts arose only when they launched armed attacks by sea and across the land frontier through Makran in Baluchistan. The Afghans, the Turks and later the Turko-Mongols came to India through the traditional north-western routes.

In the 11th century, Mahmud of Ghazni raided India several times, destroyed many beautiful temples and went back with enormous treasure. Mohammed Ghori, another Afghan ruler, came to India with political ambitions. Prithviraj, the valiant Rajput king of Delhi, fell in the battle

against the invader in 1192 and Ghori's rule was established in India. After Mohammed Ghori's death, his slave and general, Qutb-ud-Din became the Sultan of Delhi. To commemorate his victory, he started the construction of a huge tower—the imposing Qutb Minar, in Delhi.

The Delhi Sultanate was a hot-bed of conspiracies. Dynasties came to power in quick succession. Among the noted rulers were Ala-ud-Din of the Khilji dynasty who was known for his conquests and cruelty. He set up a strong administration and even enforced price-controls. Amir Khusro, the great poet, musician and wit, adorned his court. Even after six centuries, Khusro's poems are today as popular as ever.

Another interesting character among the Sultans was Muhammad-bin-Tughlak. He was a curious mixture of learning, bravery, ability and cruelty. His name has become synonymous with hare-brained schemes and hasty actions. He suddenly ordered the shifting of the capital with its inhabitants from Delhi to Devagiri, a more centrally situated place, but over a thousand kilometres away to the south. As the new capital was later found unsuitable, he ordered the government and the people back to Delhi, causing untold suffering to the citizens.

After Muhammad-bin-Tughlak, the kingdom was full of confusion. To make it worse, Timur (Tamerlane) the Turk pounced upon Delhi, ordered a general massacre and plundered the capital. Timur took vast treasures and innumerable slaves to Samarkand.

The Grand Mughals

Timur's strong blow had left North India weak and divided. This condition was an invitation to Babur, a descendent of Timur, who ruled a small principality in Central Asia. 'Babur' means 'lion' and he possessed leonine courage. With a small army of 12,000 men and a new type of artillery,

he boldly attacked the enormous army of the Delhi Sultan and vanquished it in 1526. He won another significant victory over Rana Sanga, a powerful Rajput prince, and established the Mughal dynasty which was to last for over two centuries. Akbar, the grandson of Babur, expanded the empire from the Himalayas to the Deccan and from the Bay of Bengal to the Arabian Sea.

Akbar was one of the greatest among the rulers of India. He is remembered for his universal tolerance. He married a Hindu princess and married his son also to a Hindu lady. He abolished discriminatory taxes on the Hindus and appointed them to high offices. The Hindus reciprocated his liberalism with full support to his government.

Akbar strove for Hindu-Muslim synthesis in all walks of life. The palace-city of Fatehpur Sikri near Agra, built by Akbar, is a good example of this synthesis in architecture. It is a popular tourist attraction and is truly expressive of the grandeur of Akbar's mind.

It was Jahangir, son of Akbar, who gave permission to English merchants to set up trading factories in India. His son Shah Jahan was the builder of the famous Taj Mahal, one of the wonders of the world. It took more than 20 years for thousands of craftsmen to create this 'poem in marble'. He also built the Red Fort and the huge Jami Masjid in Delhi. The finest specimens of Mughal art belong to Shah Jahan's period.

Aurangzeb, the son and successor of Shah Jahan, was totally unlike his predecessors. He came to power after killing his brothers. A puritan and fanatic, he antagonised the Rajputs who were the main prop of the Mughal throne. The Sikhs of the Punjab and the Marathas of the West Coast raised the banner of revolt against him. Moreover, Aurangzeb over-reached himself in trying to conquer the South. Shaken to its foundations in Aurangzeb's life-time, the

weakened Mughal kingdom received its fatal blow from the Persian invader, Nadir Shah, in 1739.

The Marathas

The decline of Mughal power coincided with the rise of the Marathas. These sturdy people of the Maharashtra region were first knit together by spiritual leaders like Gyaneshwar, Tukaram and Ramdas. Then Shivaji came forward as their political and military leader. Son of an army officer in the service of a Deccan Muslim ruler, Shivaji and his hardy warriors on spirited steeds were highly successful in their hit-and-run tactics against the imperial troops.

In the next century and a half, the Marathas extended their sway over a large part of India. They even held Delhi for a while. But, in 1761, they received a crushing defeat at the hands of Ahmad Shah Abdali, an Afghan chief, from which they could not recover. The resulting power vacuum in India was eventually filled by the British.

The Sikhs

The impact of Islam on Hinduism gave rise to several new movements which represented a synthesis of the two. Guru Nanak of Punjab (1469-1539) was the founder of one such movement. He rejected caste distinctions and idol-worship of the traditional Hinduism, and preached the equality of all men in the eyes of God. Many became his 'Sikhs' (disciples). The Sikhs, to begin with, were a non-martial group. Persecution by the later Mughals, however, prompted the last Guru, Gobind Singh, to convert them into a martial community. They eventually ruled the Punjab under Ranjit Singh, a great general and statesman. After his death, the British broke the Sikh power and annexed their kingdom.

BRITISH ASCENDANCY

By discovering a sea-route to India *via* the Cape of Good Hope in 1498, Vasco da Gama of Portugal opened direct maritime traffic between India and Europe. Being the first in the field, Portugal became the mistress of the eastern seas. The Portuguese were soon followed by the Dutch, the Danish, the British and the French merchants. In the scramble for power that ensued, the British were victorious and they became political rulers of the vast empire of India.

Foreigners had entered India before the British, but had settled down in this country and become part of its national life. The British, however, made India an appendage of their faraway country. Ruthless exploitation, systematic destruction of the famous Indian handicrafts, weakening of her agriculture, disintegration of the village communities, large-scale unemployment and frequent famines were among the results of foreign domination. India became a supplier of raw materials to and receiver of manufactured goods from Britain. Indian resources were utilised for conquering other lands too. Big landlords were created and innumerable native princes were retained as props of the alien government. For a long time, the British did not encourage modern education and setting up of new industries in India.

The people of India naturally did not like the foreign rulers. Feudal chiefs and many Indian soldiers of the British army rose in revolt in 1857. They received widespread popular support. Although the revolt failed, it remained a source of inspiration to future patriots. Rani Lakshmi Bai of Jhansi, Begum Zeenat Mahal of Oudh, Tantia Tope and Feroz Shah, the able guerilla leaders, and Kunwar Singh, the veteran hero of Bihar, are still venerated by the Indian people for their heroic exploits in the struggle of 1957. After the Revolt, the administration of India was taken over by the British Crown from the East India Company.

The British introduced English education in India primarily for producing clerks, but it brought modern knowledge and revolutionary ideas in its wake. The British themselves were the pioneers of the Industrial Revolution and the Machine Age. India too started taking to modern industries slowly. Jute mills were started in Bengal. Establishment of cotton mills in the Bombay region followed. In 1911, Jamshedji Tata laid the foundation of heavy industry by setting up an iron and steel mill. The railways and the post and telegraph system introduced by the British knit the country together. So also did the uniform system of administration and of law courts.

A New Synthesis

New ideas from the West made some Indian intellectuals think of reforming their own society. Raja Ram Mohan Roy of Bengal was a pioneer in this field. He fought for the removal of rituals, superstitions and degenerate practices which had taken hold of the Hindu society. To reform Hinduism and give it back its Vedic purity, he founded a new movement, called the Brahmo Samaj. In the second half of the 19th century, Dayanand Saraswati founded a reformed sect known as the Arya Samaj. About the same time, another great spiritual leader arose in Bengal. He was Ramakrishna Paramhansa. His energetic disciple, Vivekananda, sought to combine the material progress of the West with the spiritual background of India. He created a new awakening in India and a new awareness in the West of India's spiritual greatness. Rabindranath Tagore, the great poet, was a younger contemporary of Vivekananda.

The Indian National Congress, founded in 1885, was the first landmark in India's struggle for freedom from the British. By 1915-16, Mahatma Gandhi entered the Indian political scene and dominated it till the country attained

freedom. He converted the Congress into an organisation of the masses by drawing the peasants and workers into the national struggle. A galaxy of men of stature like Jawaharlal Nehru, Vallabhbhai Patel, Subhas Chandra Bose, Rajendra Prasad and Abul Kalam Azad joined the Congress under Gandhiji. Gandhiji fought against foreign rule with the weapons of truth and non-violence, for he believed that noble objectives must be attained by noble means. The policy of 'divide and rule' ultimately led to the division of the country into India and Pakistan before she became independent on August 15, 1947.

The new National Government had to undergo a hard test. Mahatma Gandhi was assassinated soon after independence. Millions of displaced persons from Pakistan had to be resettled. About six hundred princely States had to be united with the rest of the country. A war-ravaged economy had to be rehabilitated. After overcoming such urgent problems, the task of developing the country in a planned manner was started in 1951. Three Five Year Plans have been successfully carried out and the Fourth Plan is now being undertaken. The goal of these Plans is to bring a richer and happier life for every man and woman in the country. India has been pursuing a policy of peace and friendship in the international field. She is a loyal and active member of the United Nations Organisation.

Chapter III

THE CONSTITUTIONAL STRUCTURE

India became free on August 15, 1947. The Constitution which declared India to be a Sovereign Democratic Republic came into force on January 26, 1950. It was drafted by the Constituent Assembly of India which was convened in December 1946. The Indian Constitution is a comprehensive document containing 395 articles and several schedules.

India is a secular State and its Constitution prohibits discrimination on grounds of religion, race, caste or sex. In the Preamble of the Constitution is enshrined the resolve of the people to secure for all citizens "*Justice,* social, economic and political; *Liberty* of thought, expression, belief, faith and worship; *Equality* of status and of opportunity; and to promote among them all *Fraternity* assuring the dignity of the individual and the unity of the Nation".

Fundamental Rights

The Constitution incorporates a very elaborate declaration of human rights. It guarantees to all citizens freedom, equality and other rights relating to religion, property, culture, education and constitutional remedies. It also sets out Directive Principles of State Policy which lay down that the State shall strive to promote the welfare of the people by securing and promoting, as effectively as it may, a social order in which social, economic and political justice will pervade the institutions of national life.

Since all the 17 States and 10 Union Territories are governed by the same Constitution, the document clearly demarcates the powers and prerogatives of the States and the

Union in separate lists designated as State List, Union List and Concurrent List.

Being the culmination of the Indian Revolution, the Constitution necessarily stresses the unifying factors in the Indian nation, while making due provision for the diversity of the Indian people. The States have no power to secede from the Union which is indissoluble. Further, taking due note of the historical necessities, the Constitution enables the Central Government to assume control of State Governments in times of grave emergency. Parliament can then exercise the legislative powers ordinarily vested in the States.

The legislatures and, through them, the cabinets, both at the Centre and in the States, are elected by the people. The Constitution provides for a single and uniform citizenship and confers the right to vote on all adult citizens. The Indian electorate, which numbered 25.1 crores in 1967, is estimated at about a twelfth of the world's population.

Flexibility is an important feature of the Constitution. The amendment process is simple.

Union Government

India has adopted the parliamentary form of democratic government. At the head of the Union Government is the President, indirectly elected for five years by an electoral college consisting of the elected members of both Houses of Parliament and the Legislative Assemblies of the States.

The Vice-President of the Indian Union is elected by the members of both Houses of Parliament assembled at a joint meeting.

The real executive is the Council of Ministers, with the Prime Minister at its head. The Council of Ministers is collectively responsible to the Lok Sabha (House of the People).

Parliament

The Union Legislature, known as the Parliament, consists of two Houses—the Rajya Sabha (Council of States)

and the Lok Sabha (House of the People). The Lok Sabha consists of not more than 500 members elected directly from territorial constituencies in the States and not more than 25 members to represent the Union Territories. There were 508 seats—497 filled by election and five by nomination. The remaining six seats were filled by persons elected by the Jammu and Kashmir State Assembly and formally nominated by the President to the Lok Sabha. After the 1967 General Elections, the number of seats has gone up to 523, including those of the Union Territories. Of these, 520 are filled by direct election and three by nomination. The life of the Lok Sabha does not ordinarily exceed five years. Its presiding officer is designated the Speaker.

The Rajya Sabha is a permanent body elected indirectly. A third of its members retire every second year. It has a maximum strength of 250 members. Of these, 12 are nominated by the President from among eminent persons in the realms of the arts, literature, science and social services. The Vice-President of the Indian Union is the *ex-officio* Chairman of this House.

State Governments

The system of government in the States is similar to that at the Centre. Authority is vested in the Governor while a Council of Ministers headed by the Chief Minister is in charge of the administration.

Andhra Pradesh, Bihar, Jammu and Kashmir, Maharashtra, Madras, Mysore, Punjab, Uttar Pradesh and West Bengal have bicameral legislatures, while the other States have unicameral legislatures called the Legislative Assembly or *Vidhan Sabha*. The second House in these nine States is known as the Legislative Council or *Vidhan Parishad*.

The Legislative Assembly of a State is elected on the basis of adult franchise. The total number of its members cannot be more than 500 or fewer than 60. The Legislative

Council is a permanent body and a third of its members retire every two years. A third of the members are elected by the Legislative Assembly of the State and the rest by members of municipalities, district boards, etc., and by registered teachers and graduates.

General Elections

By conferring the right of vote on every adult, India's Constitution has enfranchised more than 25.1 crore Indians. Since the formation of the Republic in 1950, India has held four general elections.

The fourth General Elections were held in seven days between February 15 and 21, 1967. The electorate was called upon to elect 520 members to the Lok Sabha and 3,563 representatives to the 17 State Legislative Assemblies and the Territorial Councils of Manipur, Himachal Pradesh, Tripura, Pondicherry and Goa, Daman and Diu.

The strength of political parties in the Lok Sabha on April 15, 1966, was : the Congress Party 375, the Praja Socialist Party 9, the Samyukta Socialist Party 8, the Communist Party 17, the Communist (Marxist) Party 15, the Swatantra Party 22, the Jan Sangh 12, other parties 19 and Independents 26.

After the General Elections in February 1967, the party position in the new Lok Sabha has changed radically. Out of the total strength of 523, results of elections to 518 of the 520 elected seats have so far been declared. Results for the 2 remaining seats will be available later when elections are held in these constituencies.

The party position in the Lok Sabha, as on April 1, 1967, was : Congress 279, Swatantra 44, Jan Sangh 31, Dravida Munnetra Kazhagam 25, Communist Party of India 24, Samyukta Socialist Party 23, Communist Party (Marxist) 19, Praja Socialist Party 14, Independents and Others 57, besides seven vacant seats.

Elections in India are conducted by the Election Commission which is independent of the executive. The country's electoral laws ensure complete freedom from governmental interference and from illegal pressures. Any disputes that arise are referred for settlement, through election petitions, to the High Courts in each State.

JUDICIARY

The Supreme Court

India has an independent and unified judicial system for the whole country. At the apex stands the Supreme Court, which consists of a Chief Justice and a maximum of thirteen other judges.

The Constitution has invested it with wide appellate powers over all other courts and tribunals, and its position as the highest judicial body in the country has been further strengthened by making High Courts, including the appointment and removal of their Judges, a Union Subject. The real importance of the Supreme Court, however, emerges from its position as the guardian and interpreter of the Constitution. In this capacity, the Court not only holds the scales even between the Union and the States, but also acts as the custodian of the liberties of the citizens.

The Chief Justice is appointed by the President, and the Judges by the President after consulting the Chief Justice. They hold office till the age of 65.

As regards its powers of interpretation, the Supreme Court has recognised that the Indian Constitution has followed a *via media* between the American system of judicial supremacy and the English principle of parliamentary supremacy. It is the duty of the Supreme Court to see that the laws of the land are fairly administered and no citizen is denied justice. The law, as declared by the Supreme Court, is binding on all courts within the territory of India.

The Supreme Court has both original and appellate

jurisdiction. Its exclusive jurisdiction extends to all disputes between the Union and the States or between States *inter se*. It has extensive original jurisdiction in regard to the enforcement of fundamental rights and is empowered to issue writs of *habeas corpus*, *mandamus*, prohibition, *quo warranto* and *certiorari*.

The Supreme Court also has certain advisory functions. The President can refer to it any question of law or fact of public importance for its opinion.

Under the Constitution, every judgment of the Supreme Court has to be delivered in public and must have the concurrence of the majority of Judges present at the hearing of the case. If a Judge differs from his colleagues, he can deliver a dissenting judgment.

High Courts

At the head of the judicial administration, in every State, there is a High Court. The Chief Justice of a High Court is appointed by the President after consulting the Chief Justice of India and the Governor of the State. In the appointment of other Judges, the Chief Justice of the High Court is also consulted. High Court Judges hold office till the age of 62.

The State Legislature is not authorised to alter the constitution or the organisation of a High Court. The authority vests in Parliament, as also the power to remove a High Court Judge.

The High Courts have powers to (1) issue writs for the enforcement of fundamental rights; (2) to superintend all courts and tribunals in the State other than those constituted by, or under, any law relating to the Armed Forces and (3) to take over cases from subordinate courts involving questions of interpretation of the Constitution.

Subordinate Courts

Except for small local variations, the structure and func-

tions of the subordinate courts are more or less uniform throughout the country. Each State is divided into a number of districts, each under the jurisdiction of a principal civil court presided over by a District Judge. Below him, there is a hierarchy of civil judicial authorities in every district. District Judges are appointed by the Governor of the State in consultation with the High Court concerned. The same procedure applies to postings and promotions.

The judicial wing of the *panchayats,* which are the administrative councils functioning in the villages, deals with petty cases, civil or criminal, arising in the villages.

The basic criminal law of the land is the Indian Penal Code, first drafted by Lord Macaulay. Personal law is governed by religious injunction as well as time-honoured customs in different parts of the country. Civil law, likewise, is based partly on code and partly on customs. There have been notable reforms in the law during recent years which have been particularly directed towards removing caste disabilities and raising the status of women.

The independent judiciary is an important safeguard for the people provided by the Constitution. There are two other safeguards : the Public Service Commission and the Comptroller and Auditor-General. The former ensures impartial recruitment of efficient persons to the public services. The latter keeps a vigilant watch on the finances and accounts of the Union and the States.

CHAPTER IV

ECONOMY: FIVE YEAR PLANS

India's great economic wealth has been the subject of history and fable during the ages past. It is, even today, very rich in material and human resources. At the time of independence in 1947, however, when the first popular Government assumed power, it inherited a war-shattered economy from the British. The Partition of India, with its mass migrations, violence and destruction, further crippled it. Thus, two centuries of colonial exploitation, the consequences of the Second World War and the problems arising from Partition had left the economy weak and unbalanced. Several million people were totally unemployed. The average per capita annual income was only Rs. 230. In the absence of proper facilities for maternity and of health services, infant mortality was so high that out of every 10,000 babies born, 1,460 died within the first year. The average life-expectancy of an Indian was only 27 years. About 50,00,000 people died every year of tuberculosis. There were only 50,000 doctors for the 5,60,000 towns and villages. Illiteracy was rampant and hardly 16 per cent of the people could read or sign their names, while a mere 15 per cent of the children were at school.

Such colossal problems demanded a systematic and planned effort over a long period. So, shortly after attaining independence, the national Government of India set up, in 1950, a planning organisation to chalk out plans of national development with popular participation.

India's economy today is in a process of fast development. The State as well as private entrepreneurs take their parts in the economy. The State's role in this sphere has

grown steadily and is further expanding at an increasing pace. Basic and heavy industries are mostly in the State sector. Besides large-scale industries, there are millions of farmers, craftsmen, traders and small businessmen in the private sector. The State has powers to control and regulate the private industries. The State also encourages the co-operative sector which has seen a spectacular growth in recent years.

India's national income in 1963-64, at constant prices, was Rs. 13,970 crores, as compared to Rs. 8,850 crores in 1950-51. The contribution of agriculture to the national income in 1963-64 was 47.5 per cent. Mining and industry brought in 19.3 per cent, while commerce, transport and communications contributed 16.3 per cent. The balance was accounted for by other services. Millions of new jobs were created during the last decade. There has been a successive increase in the national income during the years 1964-65 and 1965-66. The national income in 1965-66 is estimated to be Rs. 15,930 crores at 1960-61 prices.

Perspective of Planning

The long-range perspective of planning was to double the per capita income in 25 years. The First Plan, launched in 1951, aimed at strengthening the economy at the base and, therefore, laid stress on agricultural development and multi-purpose river valley projects. It also initiated some basic governmental policies which sought to bring about social change and institutional reforms. The Second Plan (1956-1961) carried these policies a step further and placed before the nation the goal of a socialist pattern of society. It laid emphasis on the development of basic and heavy industries and defined the key role which the State or public sector was to play in the economic development of the country.

Investment during the two Plans totalled Rs. 10,110 crores—Rs. 5,210 crores in the public sector and Rs. 4,900 crores in the private sector. The average annual level of investment in the economy was thereby raised from Rs. 500 crores at the beginning of the decade to Rs. 1,600 crores at its end.

Development programmes for agriculture and irrigation were allotted 31 and 20 per cent, respectively, of the public sector outlay in the First and Second Plans. In the Second Plan, the emphasis shifted to industries and the share of industries and minerals in it was increased to 20 per cent. It was only 4 per cent in the First Plan. For power, the allocations in the two Plans were 13 and 10 per cent. Transport and Communications received 27 and 28 per cent, while Social Services and Miscellaneous comprised 23 and 18 per cent of the outlays in the First and Second Plans.

Of the public sector outlay, Rs. 1,772 crores or 90 per cent of the total of Rs. 1,960 crores in the First Plan and Rs. 3,510 crores or 76 per cent of the outlay of Rs. 4,600 crores in the Second Plan, came from internal resources; the remaining comprised external assistance.

Achievements

Over the period of the first two Plans (1951-1961), the national income is estimated to have increased by 42 per cent. The increase in the per capita income was only about 16 per cent which was due to a rapid population growth of 21 per cent. Agricultural production increased by 41 per cent and industrial production by 94 per cent. Many new industries, some of them basic ones, were started during the period. In fact, the decade witnessed the beginning of an industrial revolution in India.

Production of foodgrains which stood at 5.49 crore tonnes in 1951 increased to 8.20 crore tonnes in 1961. The produc-

tion of cotton rose from 26.2 lakh bales to 52.9 lakh bales, that of sugarcane from 69.2 lakh tonnes to 110.2 lakh tonnes and that of jute from 35.1 lakh bales to 41 lakh bales. The area of irrigated land increased by more than one-third. About 20 lakh hectares (50 lakh acres) of waste land were reclaimed, and soil conservation was extended to about 11 lakh hectares (27 lakh acres). The consumption of chemical fertilisers rose more than four times.

Three big steel mills—one each with British, West German and Soviet assistance—were established in the public sector. Steel production, as a result, increased two-and-a-half times. Production of iron ore was about one crore tonnes—more than three times the figure in 1950. India also started producing various kinds of machines during this period. The value of machines produced increased eleven times in the ten years. Production of diesel engines went up by 627 per cent and of electric motors by 600 per cent, while over 12 times more electric cables and conductors were produced. During this period, there was also a large increase in the production of industrial materials like cement (over 3 times), coal (69 per cent) and aluminium (5 times). There was also a spurt in the production of consumer goods. For example, the output of sewing machines went up by 800 per cent, of bicycles by 940 per cent, of automobiles by 224 per cent, and of handwoven textiles by over 260 per cent. A noteworthy feature of the decade was the organised development of small-scale industries in various parts of the country. These small factories produce various kinds of consumer goods. Power generation was more than doubled during the first two Plans. The number of towns and villages supplied with electricity has increased more than six times.

There was significant progress in the prospecting for mineral oil. Formerly, there was hardly any output of oil in India. But, in the past decade, rich oil deposits were

discovered in Assam and Gujarat with Soviet and Rumanian assistance. Three refineries were set up and the construction of two more refineries was started.

India also started large-scale manufacture of locomotives, coaches and wagons. A shipbuilding industry was set up during this period and shipping tonnage was more than doubled. Communication facilities were also expanded considerably. The number of post offices and of telephones in use was more than doubled. Indigenous manufacture of telephone instruments was also started at the factory of the Indian Telephone Industries in Bangalore.

Third Plan

The scope of the Third Five Year Plan (1961-1966) and the outlay on it was bigger than those of the previous two Plans put together. Its aims were: (i) to secure an increase in national income of over 5 per cent per annum, and at the same time ensure a pattern of investment so as to sustain this rate of growth during subsequent Plan periods; (ii) to achieve self-sufficiency in foodgrains and increase agricultural production to meet the requirements of industry and exports; (iii) to expand basic industries like steel, chemicals, fuel and power, and establish machine-building capacity, so that the requirements of further industrialisation could be met, within a period of ten years or so, mainly from the country's own resources; (iv) to utilise to the fullest possible extent the manpower resources of the country and to ensure a substantial expansion in employment opportunities; and (v) to establish progressively greater equality of opportunity and to bring about a reduction of disparities in income and wealth and a more even distribution of economic power. After the successful completion of the Third Plan, the national income was expected to increase by about 30 per cent, from Rs. 14,500 crores (in 1960-61)

to about Rs. 19,000 crores in 1966 (at 1960-61 prices); and per capita income to rise, by 17 per cent, from Rs. 330 in 1960-61 to about Rs. 385 in 1965-66.

The estimated total cost of the physical programmes in the Third Plan, which include certain measures in preparation for the Fourth Plan, exceeds Rs. 8,000 crores for the public sector and Rs. 4,100 crores (estimated) for the private sector. The estimate of financial resources for the public sector, however, was placed at Rs. 7,500 crores.

THE FOURTH FIVE YEAR PLAN

After Independence, when the scheme for planned development of the country's economy was drawn up, certain basic objectives were laid down for a 15-year period of development which was envisaged. The tentative framework of the Fourth Plan is also based on these same objectives. The principal aim of the Fourth Plan is to generate a rapid increase in the national product without impairing social stability. The emphasis is on the production of basic goods and services required for consumption by the mass of the people. The investment in human and material resources is to be made so as to generate a much larger supply of goods, which is essential for future growth and for which we have to depend at present on external assistance.

In formulating the framework of the Fourth Plan, the view of the strategy and objectives has been taken against the background of difficulties and problems experienced during the Third Plan period. The purpose in the Fourth Plan, therefore, is to avoid inflation, improve consumption standards and attain a more equitable distribution of incomes and wealth, a faster development of human resources and quicker progress towards self-reliance. The total outlay on the Fourth Plan has been proposed provisionally at Rs. 23,750 crores. Of this, Rs. 16,000 crores is the proposed outlay in the public sector.

The public sector outlay has been distributed between the Centre, the States and the Union Territories. The share of the Centre is proposed to be Rs. 8,536 crores, that of the States Rs. 7,073 crores and of the Union Territories Rs. 391 crores. Out of the proposed total public outlay of Rs. 16,000 crores, agriculture and community development has been allotted Rs. 2,140 crores, irrigation Rs. 964 crores, power Rs. 2,030 crores, small industry Rs. 370 crores, organised industry and mining Rs. 3,936 crores, transport and communications Rs. 3,010 crores, education Rs. 1,210 crores, scientific research Rs. 140 crores, health and water supply Rs. 960 crores, housing Rs. 280 crores and welfare of backward classes Rs. 180 crores. The rest of the outlay is proposed to be distributed over miscellaneous items.

The Fourth Plan lays great stress on raising agricultural production. The financial provision for agriculture and supporting sectors like irrigation, rural electrification and fertilisers is proposed to be Rs. 5,400 crores—a third of the total public sector outlay of Rs. 16,000 crores.

At the end of the Fourth Plan period, in 1970-71, the foodgrains production is expected to rise to 12 crore tonnes from the present potential output of 9 crore tonnes. The consumption of chemical fertilisers will be trebled and production will increase by nine times. Irrigation will be extended by more than 36 lakh additional hectares. Forty-five per cent of the entire usable river water resources are proposed to be harnessed by the end of the Plan period.

The annual production of industrial machines is expected to rise in value to Rs. 1,600 crores from the present Rs. 350 crores. The annual output of steel ingots will be doubled from 62 lakh tonnes to 117 lakh tonnes. A five-fold increase is expected in the production of aluminium—from 65,000 tonnes to 3,30,000 tonnes per year. A similar rise in the value of machine-tool production is envisaged, *i.e.* from Rs. 23 crores to Rs. 105 crores per year.

In the Fourth Plan, 190 lakhs more jobs will be created, which is expected to relieve the pressure of unemployment in a substantial measure.

Shipping tonnage is proposed to be doubled, while production of automobiles will increase from 77,000 to 1,70,000 per year.

By the end of the Plan, atomic power would be available in the country and the power generation capacity will be doubled to about 2 crores kw.

In the sphere of education, the main aim of the Fourth Plan is to provide free and universal primary education and to improve and accelerate the pace of girls' education. Scientific, technical and vocational education is proposed to be improved and expanded in a very large measure.

TABLES

OUTLAY AND INVESTMENT : PUBLIC AND PRIVATE SECTORS

(Rs. crores)

Head of Development	Public Sector			Private sector investment	Total investment	Total Outlay (public and private sectors)
	Total	Current outlay	Investment			
1	2	3	4	5	6	7
Agriculture, Community Development & Co-operation	2,410	835	1,575	900	2,475	3,310
Irrigation	964*	—	964	—	964	964
Power	2,030	—	2,030	50	2,080	2,080
Small Industry	370	140	230	320	550	690

* Includes Rs. 24 crores for Tenughat Dam (Bokaro).

(*Rs. Crores*

1	2	3	4	5	6	7
Organised Industry & Mining	3,936	—	3,936	2,350	6,286	6,286
Transport and Communications	3,010	—	3,010	630	3,640	3,640
Education	1,210	740	470	90	560	1,300
Scientific Research	140	50	90	—	90	140
Health	492 }	343	244	—	244	587
Family Planning**	95 }					
Water Supply	373	—	373	—	373	373
Housing & Construction***	280	—	280	1,500	1,780	1,780
Social Welfare	50	40	10	10	20	60
Welfare of Backward Classes	180	115	65	—	65	180
Craftsmen Training & Labour Welfare	145	65	80	—	80	145
Public Co-operation	10	7	3	—	3	10
Rural Works	95	—	95	—	95	95
Hill Areas & Special Areas	50	15	35	—	35	50
Rehabilitation	90	30	60	—	60	90
Other Programmes	70	20	50	—	50	70
Inventories	†	†	†	1,900	1,900	1,900
GRAND TOTAL	16,000	2,400	13,600	7,750	21,350	23,750

** Department of Family Planning has proposed an additional outlay of Rs. 144 crores in the Fourth Plan. It has been decided that any additional amount that this programme can usefully spend will be provided through the annual Plans.

*** In addition, funds are likely to be available from the Life Insurance Corporation and the Employees' Provident Fund for investment in housing programmes.

† Part of the inventories under public sector is covered in sectoral outlays and part will be financed through the banking system.

Comparative position of outlays in the Fourth Plan and likely expenditure in the Third Plan

(*Rs. crores*)

Head of Development	Likely expenditure in the Third Plan	Outlay proposed for the Fourth Plan
1	2	3
Agriculture, Community Development & Co-operation	1,103	2,410
Irrigation	657	964
Power	1,262	2,030
Small Industry	220	370
Organised Industry & Mining	1,735	3,936
Transport and Communications	2,116	3,010
Education	596	1,210
Scientific Research	75	140
Health	357 (Health, Family Planning, Water Supply)	492
Family Planning		95
Water Supply		373
Housing and Construction	110	280
Welfare of Backward Classes	102	180
Social Welfare	19	50
Craftsmen Training and Labour Welfare ..	72	145
Public Co-operation	2	10
Rural Works	41	95
Hill Areas and Special Areas	—	50
Rehabilitation	48	90
Other Programmes	116	70
Grand Total	8,631*	16,000

* A lump-sum cut of Rs. 3 crores was effected by Punjab State Government in 1965-66, break-up of which is not available. Therefore the expenditure figure will be Rs. 8,628 crores.

Note: The Third Plan figures have been worked out on the basis of the actuals for the first four years of the Plan and likely expenditure for 1965-66. However, it is felt that the total expenditure may be lower than Rs. 8,631 crores.

INVESTMENT IN THE THIRD AND FOURTH PLANS

(*Rs. crores*)

Head of Development	Third Plan			Fourth Plan		
	Public sector investment	Private sector investment	Total investment	Public sector investment	Private sector investment	Total investment
1	2	3	4	5	6	7
Agriculture, Community Development & Co-operation	660	800	1,460	1,575	900	2,475
Irrigation	650	—	650	964	—	964
Power	1,012	50	1,062	2,030	50	2,080
Village and Small Industries	150	275	425	230	320	550
Organised Industry & Mining	1,520	1,050	2,570	3,936	2,350	6,286
Transport and Communications	1,486	250	1,736	3,010	630	3,640
Social Services & other programmes	622	1,075	1,697	1,855	1,600	3,455
Inventories	200	600	800	*	1,900	1,900
GRAND TOTAL	**6,300**	**4,100**	**10,400**	**13,600**	**7,750**	**21,350**

*Part of inventories under public sector is covered in sectoral outlays and part will be financed through the banking system

CHAPTER V

AGRICULTURE AND RURAL DEVELOPMENT

Although India is marching forward industrially, agriculture is still the mainstay of nearly two-thirds of the population. Agriculture and allied activities account for nearly a half of the country's national income. It supplies raw material for some of the major industries, such as, cotton and jute, textiles and sugar, and provides a large portion of the country's exports.

The two outstanding features of agricultural production in India are the great variety of crops and the preponderance of food crops over non-food crops which are grown on about 80 per cent of the gross sown area. As a result of the programmes implemented during the Five Year Plans, agricultural production has been increasing. Despite increased production of foodgrains, however, India has to import food in order to meet a part of her requirements.

Out of a total land area of 32.68 crore hectares, 13.62 crore hectares are under cultivation. In 1962-63, the total area under irrigation was 2.57 crore hectares. This figure is estimated to have touched 3.6 crore hectares in 1966.

The Third Plan provided for an outlay of Rs. 601.56 crores on programmes of agricultural production. This was in addition to the provision of Rs. 80.10 crores for co-operation and Rs. 599.34 crores for major and medium irrigation projects. An outlay of Rs. 61.08 crores was initially approved for minor irrigation programmes during 1965-66. This was subsequently increased to Rs. 76.93 crores. About Rs. 72 crores have been provided for the execution of various soil conservation programmes as against

Rs. 1.6 crores in the First Plan and Rs. 18 crores in the Second Plan.

A scheme called the 'Intensive Agricultural District Programme' was sponsored during 1961-62 with financial assistance from the Ford Foundation. The programme, extending over a period of five years, has the two fold objective of (a) increasing food production in order to meet the existing shortage, as well as to provide a base for more rapid economic development, and (b) demonstrating the most effective ways of increasing food production through concentration of resources, both human and material, and setting a pattern of extending such programmes to other areas.

A Central Mechanised Farm of about 12,141 hectares was established in 1956, at Suratgarh in Rajasthan, with Soviet assistance. This farm was intended to serve as a model for more farms of the kind. The second farm was established at Jetsar in the same State in 1963.

Land Reforms

Realising that agricultural production can increase only if the farmer has a bigger stake in the land, almost all States have adopted legislative measures to eliminate the intermediaries between the cultivator and the State as far as possible. The aim of this legislation is to confer ownership rights on the actual tillers and to reduce social inequality. The programme for abolition of intermediaries has been mostly completed. It has brought more than two crores of tenants into direct relationship with the State and made available to the Government considerable areas of cultivable waste-lands for distribution to landless agriculturists.

Many States have set limits to the extent of land that a family or individual can own. Legislation has also been enacted to fix reasonable rents and to grant fixity of tenure to the cultivating tenants. Minimum wages have also been fixed in some States for the landless agricultural workers.

Bhoodan

The *Bhoodan* or voluntary land gift movement, conceived by Vinoba Bhave in 1951, is an important step in the direction of land reform. "In a just and equitable order of society, land must belong to all", said Vinoba Bhave, and that is the essential principle of the *Bhoodan* movement. Its main objective is "to propagate the right thought by which social and economic maladjustments can be corrected without conflict".

The movement which began on a modest scale on April 18, 1951, now covers the length and breadth of India. The target is to obtain about 2 crore hectares of land so that it may be possible to provide some land for cultivation to every rural family. The movement has now widened into *gramdan, i.e.* donation of the entire village, the idea being that all land should belong to the village community as a whole.

About 17 lakh hectares of land have so far been donated in *bhoodan*. Of these, 4.5 lakh hectares have been distributed to the landless. Nearly 11,370 villages have joined the *gramdan* movement. Several States have enacted legislation for facilitating transfers of land offered in *bhoodan* and *gramdan* and for the management of lands thus transferred.

Agricultural Research

Research and extension activities play an important part in agricultural production. These are co-ordinated by the Indian Council of Agricultural Research. Research work is carried on at a number of institutes and agricultural colleges. They have evolved several new varieties of seeds for crops which are resistant to drought, disease, insects and pests. The Indian Agricultural Research Institute at Delhi has, for example, evolved wheat varieties noted for their high yield and resistance to disease. The Sugarcane Research Institute at Coimbatore has evolved varieties which have increased the sugarcane yield per hectare by more than

half. Similar results have been obtained in respect of crops like millets, pulses, tubers, vegetables, cotton and jute. The fruits of research are carried to the doorsteps of the farmers through the Community Development agencies.

FORESTS

India's forests cover just over a fifth of the total geographical area of the country. Compared with the forest areas in most countries, this is a low proportion. Therefore, the National Forest Policy Resolution of May 2, 1952, proposed that the area under forests be steadily raised to 33.3 per cent of the total land area.

Under the Third Plan, the forestry development programmes included development of farm forestry, economic plantations, rehabilitation of degraded forests, improvement of forest communications and roads, development of forest research, nature conservancy schemes and forest protection schemes. A special programme for growing fast-growing species suitable for industries like matches, plywood, paper and pulp and boards had been launched with a provision of Rs. 2.75 crores under the Third Plan. An area of about 53,581 hectares was brought under quick-growing species during 1961-62 to 1964-65 and another 28,733 hectares were expected to be added during 1965-66.

LIVESTOCK, POULTRY AND FISH

The 1961 livestock census showed that the country had 17.6 crore cattle (a fifth of the world population), 5.1 crore water buffaloes, 4.0 crore sheep and 6.1 crore goats.

The Third Plan made a provision of about Rs. 54 crores for animal husbandry. A number of schemes for the improvement of livestock were undertaken. These aimed at developing the milk yielding capacity of well-defined milk breeds by selective breeding and upgrading of nondescript cattle, and improvement of draught breeds in milk yielding capacity without impairing the quality of bullocks.

Dairy development programmes include establishment of city milk plants, colonisation of cattle, establishment of milk product factories and rural creameries, rural dairy extension and training of technical personnel.

With the establishment of two new dairy plants at Baroda and Bangalore, the total number of organised plants now stands at 30. Pilot milk schemes are in operation in several cities as a prelude to the setting up of dairy plants. Together, the dairy plants and pilot schemes are handling about 13 lakh litres of milk daily.

A poultry development programme has been undertaken to widen the scope for the improvement of nutritional standards in the country.

With an extensive coast-line and numerous rivers, lakes and tanks, India has potentially rich resources of fish. The production of fish during 1964 was 13.2 lakh tonnes as against 10.5 lakh tonnes in 1963. The value of exports of fish and fish products reached a record level of Rs. 6.53 crores in 1964.

Mechanisation of fishing craft and the development of suitable designs of mechanised craft for different coastal regions were undertaken during the first two Plans. During 1963, 390 marine engines were supplied and with them the number of mechanised fishing boats had risen to about 3,140. About 1,600 boats were mechanised upto 1964-65, the fourth year of the Third Plan. Contracts have been entered into for the import of 1,137 marine diesel engines; in addition 710 indigenous engines are expected to be made available.

Community Development

The Community Development Programme, which aims at bringing about a new dynamism in India's half-a-million villages, was launched on October 2, 1952. Local initiative, rather than governmental sponsorship, is stressed in the pro-

gramme which now covers virtually the entire rural population. The Programme gave the highest priority to improvement in agricultural production. It also provided more roads, schools, homes, dispensaries, health centres, veterinary clinics, demonstration farms, small-scale industry centres and recreation clubs in the villages.

The First Five Year Plan saw the evolution of the concept of a National Extension Service as the agency and Community Development as the method for the reconstruction of rural India. The Second Plan witnessed the birth of the concept of *Panchayati Raj*, involving devolution of the institutions of Government at the village, block and district levels. The principal task in the Third Plan was to ensure the growth and consolidation of *Panchayati Raj* institutions.

The panchayat, the co-operative and the school are the basic institutions at the village level for carrying out the programme. The elected panchayat holds charge of all development programmes in the area. While the co-operatives operate in the economic sphere, the village-school serves as the centre of activity in the educational, cultural and recreational spheres. Associate organisations, such as, women's and youth organisations, farmers' associations, artisans' associations, etc., functioning in their respective spheres, are linked up with the panchayat in its development activities. They are supported in turn by the panchayats in their own work.

Community Projects are financed partly by the Central and State Governments and partly by voluntary contributions by the people in the form of money as well as labour. The value of such voluntary contributions from the people till March 31, 1965, was of the order of Rs. 141.84 crores, forming about 32 per cent of the total Government expenditure on the Community Projects. Expenditure incurred during the First and Second Plan periods amounted to Rs. 235.60 crores. The outlay for the Third Plan period

was estimated at Rs. 321.9 crores. In this effort to develop the rural areas, India is receiving assistance from the Government of the U.S.A. and the Ford Foundation.

Co-operation

India's declared goal is a socialist pattern of society. Co-operation provides a potent force for translating the policy into action.

There are nearly 3,56,410 co-operative societies of all types in the country with a total membership of about 452,89,219. Thus, roughly about 20.78 crore persons or something like 45.4 per cent of the population have been brought within the purview of the co-operative movement.

The earliest co-operative societies formed in India were credit societies, which even today constitute the most important class of societies, both in number and membership. The credit societies have a three-tier structure consisting of the State co-operative banks at the State level, Central co-operative banks at the district level and primary agricultural credit societies at the village level. In some States, grain banks give loans in kind to agriculturists. At the end of June 1964, there were 9,007 grain banks with a membership of 13.47 lakhs and a working capital of Rs. 7.35 crores. In the 583 primary land mortgage banks in the country in 1963-64, their membership stood at 12,78,316 and working capital at Rs. 74.08 crores.

At the end of June 1964, there were 2,09,622 agricultural credit societies with a membership of 2,37,28,000. The working capital of these societies stood at Rs. 440.39 crores.

There were 4,512 co-operative farming societies with a membership of 1,13,839 and a working capital of about Rs. 6.2 crores. The Third Plan has laid down that preference should be given to co-operative farming societies in allotting surplus lands.

Chapter VI

IRRIGATION AND POWER

The rapid progress that India desires in agricultural and industrial output depends in large measure on the development of irrigation and the availability of cheap power. The irrigated area in India exceeds that in any other country. It, however, constitutes only about a fifth of the country's cultivated area. It has been estimated that the quantity of water that flows down the rivers of India each year is nearly 16,725,99 lakh cubic metres. Of this, only about 5.6 per cent was being utilised in 1951 for irrigation and power generation. By the end of the Second Plan, 8.9 per cent of the total annual flow was estimated to have been utilised. The estimated figure for the Third Plan period (1961-66) is about 12 per cent, bringing it to 36 per cent of the water which is believed to be utilisable for irrigation.

After the attainment of independence, during the First Plan, schemes were drawn up for the integrated development of the river basins. Of the 229 projects taken up, eleven big ones were multi-purpose schemes costing more than Rs. 50 crores each. These included the Bhakra-Nangal, Hirakud, Tungabhadra and the Damodar Valley projects. Six, including the Kakrapara, Koyna, Chambal and Lower Bhawani, were medium irrigation schemes costing over Rs. 5 crores each. The remaining were smaller schemes costing below Rs. 5 crores but more than Rs. 10 lakhs each. In addition, a large number of minor irrigation schemes, such as, the construction of wells, renovation of tanks and improvement works on small streams and rivulets, were taken up.

The net area irrigated from all sources at the beginning of the First Plan was 216.03 lakh hectares, of which about

96.64 lakh hectares were irrigated by major and medium irrigation projects. At the end of the Second Plan, it was 287.91 lakh hectares. At the end of the Third Plan, in 1966, the net total area irrigated in the country is estimated at about 349.43 lakh hectares.

POWER

Generation of electricity in India has risen from 18 kwh per head of the population in 1951 to 47 kwh in 1961, and it is expected to have increased to about 81 kwh in 1966. The Third Plan target was 95 kwh. Formerly, most of the power supply undertakings used to cater for urban areas only. Power is now being extended to a large number of villages. At the beginning of the Third Plan, the total number of electrified villages stood at about 26,900. During the Third Plan period, against a provision of Rs. 125 crores and a target of electrifying 20,000 additional villages, about 19,000 additional villages had already been electrified up to the end of March, 1965.

The total installed generating capacity in the country at the beginning of the First Plan stood at 23 lakh kw. During the First Plan, the aggregate installed generating capacity increased by about 49 per cent. During the Second Plan, there was an increase of 64 per cent in the generating capacity, which rose from 34.2 lakh kw to 56 lakh kw. At the end of the Third Plan, in 1966, the aggregate capacity of the plants in commission and under erection and testing is expected to be of the order of 102 lakh kw.

Nuclear Power

Nuclear power is going to play an increasing part in meeting energy demands in the future. A nuclear power station is planned for construction at Tarapur, near Bombay. It will consist of two reactors, each producing 190 mw

of power. The power station is expected to be commissioned by the end of 1968. A nuclear power station of the capacity of 200 mw is also under construction near Rana Pratap Sagar Dam in Rajasthan and a third one with a capacity of 400 mw. is to be installed at Kalpakkam in Madras State.

River Valley Projects

Some of the major river valley projects in India are described briefly in the following paragraphs :

Bhakra-Nangal Project

The Bhakra-Nangal Project (Punjab) is the biggest multi-purpose river valley scheme and is estimated to have cost Rs. 175.60 crores. In consists of : the 226-metre high dam across the Sutlej at Bhakra; the 29 metres high Nangal Dam; the 64 km. long Nangal hydel channel; one power house on the left bank of the Bhakra Dam; two power houses on the hydel channel at Ganguwal and Kotla. Besides these, there are about 1,104 km. of canals and over 3,360 km. of distributaries. The project has been completed recently.

The Bhakra Canal system serves an area of about 27.4 lakh hectares.

The three power houses have a combined installed capacity of 604 mw. Another power house on the right bank of the Sutlej, estimated to cost about Rs. 59.32 crores, will have five generating units of 120 mw. each.

Beas Project

This project, also in Punjab, consists of two units, *viz.*, (i) the Beas-Sutlej Link and (ii) the Beas Dam at Pong. The former provides for a diversion dam, a combination of tunnels and an open hydel channel, and a power plant with an installed capacity of 636 mw. It will also provide irrigation to a culturable area of 5.26 lakh hectares. This project will benefit the States of Punjab and Rajasthan.

Rajasthan Canal Project

The Rajasthan Canal Project, it is estimated, will cost Rs. 184 crores. To begin with, the 469.8 km. long Rajasthan Canal will be fed with water from the Ravi and the Beas rivers through the Rajasthan Feeder which is 214.4 km. long. Later, the flow supplies will be supplemented by stored waters from dams proposed to be constructed on these two rivers. The flow supplies will provide irrigation to about 11.6 lakh hectares of parched land in Rajasthan.

Hirakud Dam Project

The 4,800 metres long main Hirakud dam on the Mahanadi river is the world's longest dam. Flanked on both sides by 21 km. of dykes, it impounds 81 crore cubic metres of water. The dam and dykes, as well as the power house at the toe of the dam, and the vast network of transmission lines have already been completed. The estimated cost of the project is about Rs. 68 crores. The entire irrigation system has been completed and irrigation provided to the entire commanded area of 2.43 lakh hectares in Orissa. The total installed capacity of the power house at Hirakud is 198 mw. Another power house at Chiplima has an installed capacity of 72 mw. Power is being supplied from here to various industrial and metallurgical plants in Orissa, besides several towns.

Damodar Valley Project

The project comprises four storage dams completed between 1953 and 1959 at Tilaiya, Konar, Maithon and Panchet Hill with hydel power houses of a total capacity of 1,04,000 kw. attached to all the dams except Konar. and three thermal power stations with a total capacity of 6.25 lakh kw. The total power generating capacity in 1966 is expected to be about 10 lakh kilowatts.

The 692 metres long and 11.58 metres high barrage at Durgapur in West Bengal was opened in August 1955. It will irrigate, on full development, about 4 lakh hectares of land. Nearly 137 km. of the main left bank canal is now navigable. The barrage at Durgapur will have canals and distributaries, nearly 2,494 km. long, some of which will be navigable.

Tungabhadra Project

This project comprises a 2,450 metres long and 49.30 metres high dam on the Tungabhadra river and a system of canals with power stations on either side. The dam was inaugurated in July 1958. The reservoir, which has a water-spread of 37,914 hectares, will ultimately store 30 lakh acre-feet of water. The two canals on either side will irrigate nearly 4.2 lakh hectares in Andhra Pradesh and Mysore States. The two power houses will have an installed capacity of 18,000 kw.

Kosi Project

The Kosi scheme, estimated to cost Rs. 64.23 crores, will irrigate 12 lakh hectares in Bihar and Nepal, besides affording protection against floods. The project envisages the construction of a 1.149 metres long barrage with a rail-*cum*-road bridge over the Kosi river. The barrage and headworks, besides the road bridge, have been completed and were inaugurated in 1965 by the King of Nepal. A power house, with four generating units of 5,000 kw. each, will be constructed on the eastern Kosi canal. Flood embankments, affording protection to nearly 20,720 square km. in Nepal and Bihar, were completed in 1959. Work on the canal system is nearing completion.

Chambal Project

The first phase of the project includes, among other works, the Gandhi Sagar Dam, which has a gross storage



Three peasants have a chat after work on their farms.



Heavy tractors break the virgin soil at the 30,000-acre Suratgarh State Farm in Rajasthan. Tractors and other agricultural machinery in use at this Farm have been gifted to India by the Soviet Union.

A youthful farmer proudly shows off his bumper crop of wheat. The big and heavy ears on the plants show that it is one of the best varieties of wheat introduced recently.

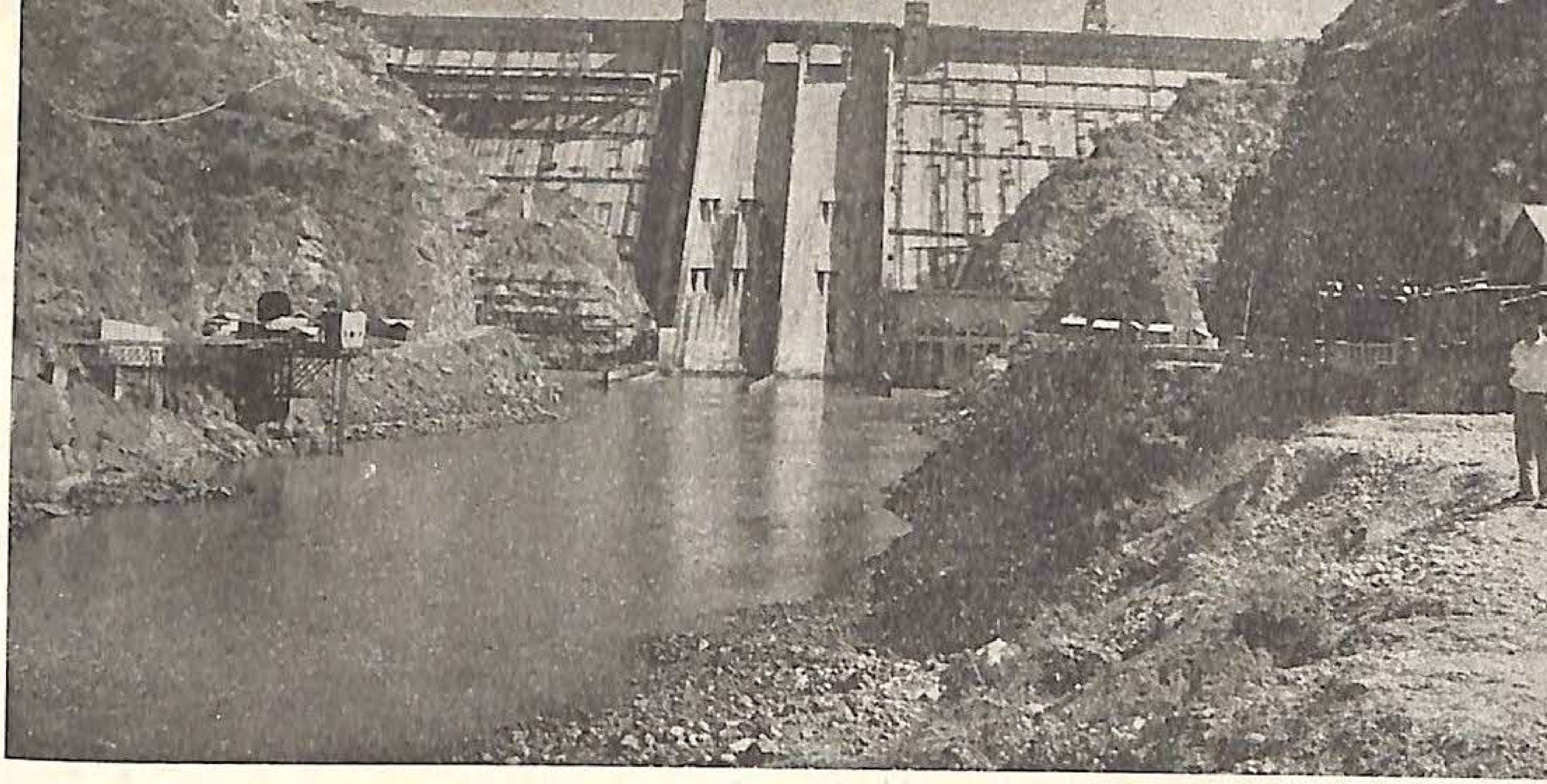




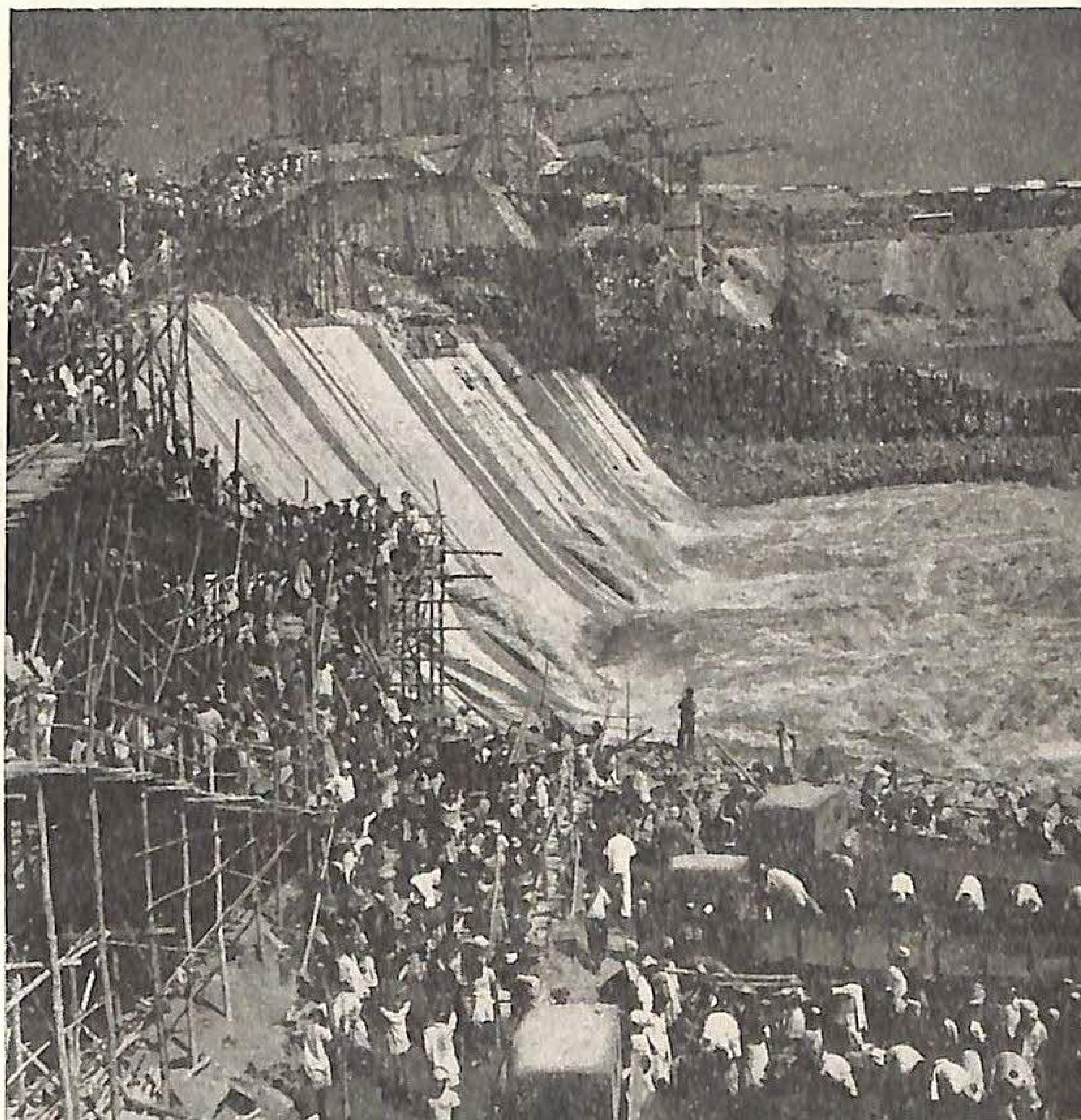
The Nangal hydro-electric transmission grid and the Canal which carry electricity and irrigation benefits to large areas in the Punjab region.

The irrigation channel carrying life-giving water to the crops on both sides





The 225-metre (740 feet) high dam at Bhakra which is the highest straight-gravity dam in the world. This dam and its huge power stations, along with the Nangal hydro-electric and canal system, constitute the biggest multi-purpose project in the country. The power houses have a capacity of over 1200 megawatts and the irrigation benefits will extend to 7 million acres of agricultural land.

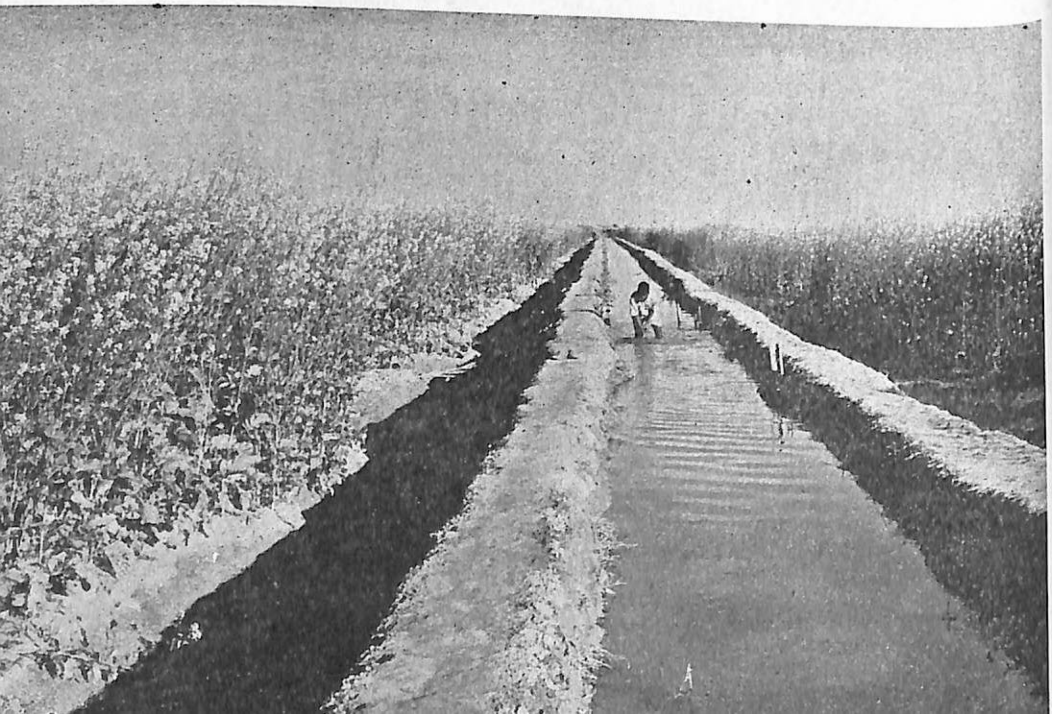


Human effort and the power of giant machines work harmoniously together to build the Nagarjunasagar Dam in Andhra Pradesh.



The Nangal hydro-electric transmission grid and the Canal which carry electricity and irrigation benefits to large areas in the Punjab region.

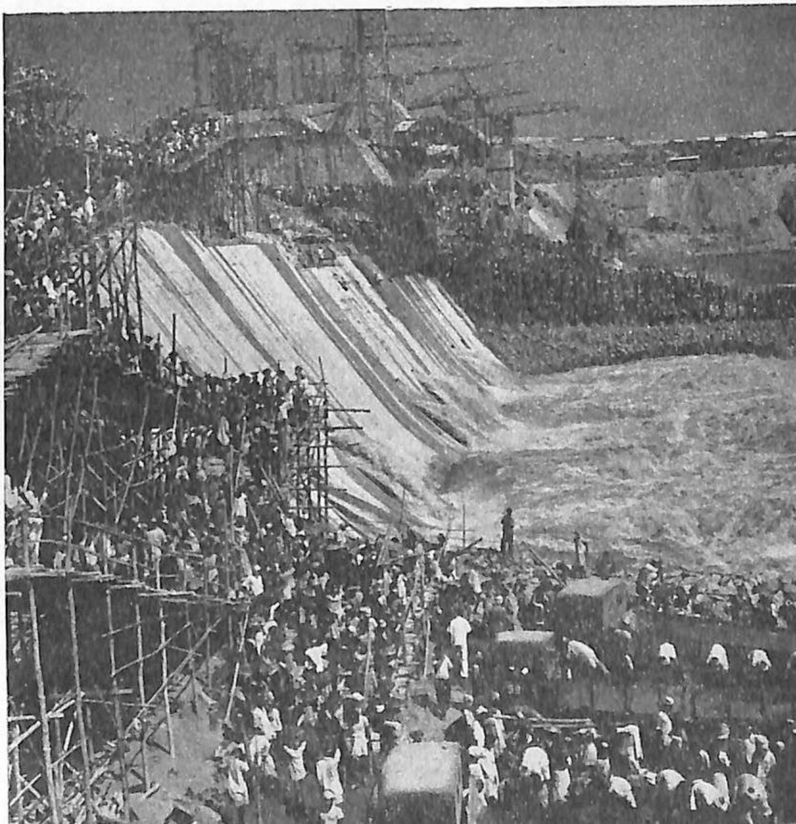
The irrigation channel carrying life-giving water to the crops on both sides

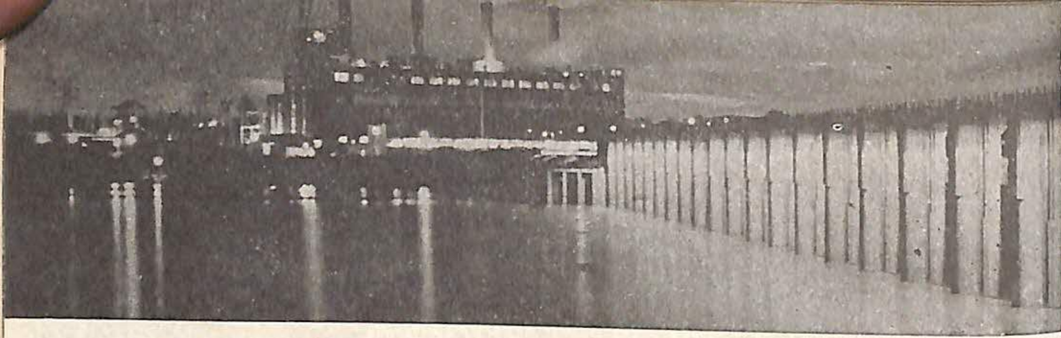




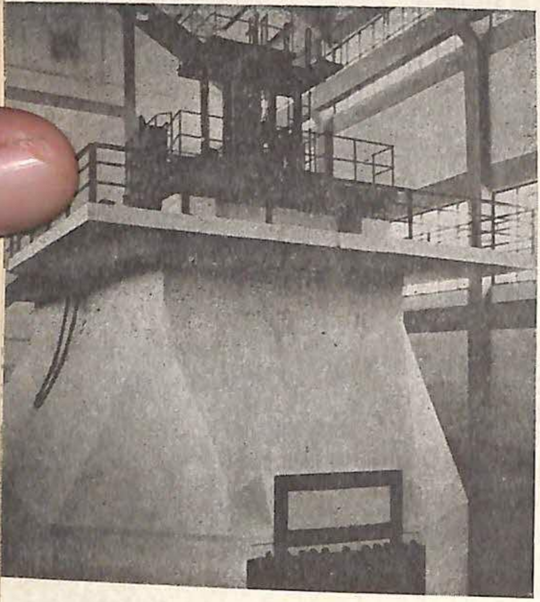
The 225-metre (740 feet) high dam at Bhakra which is the highest straight-gravity dam in the world. This dam and its huge power stations, along with the Nangal hydro-electric and canal system, constitute the biggest multi-purpose project in the country. The power houses have a capacity of over 1200 megawatts and the irrigation benefits will extend to 7 million acres of agricultural land.

Human effort and the power of giant machines work harmoniously together to build the Nagarjunasagar Dam in Andhra Pradesh.



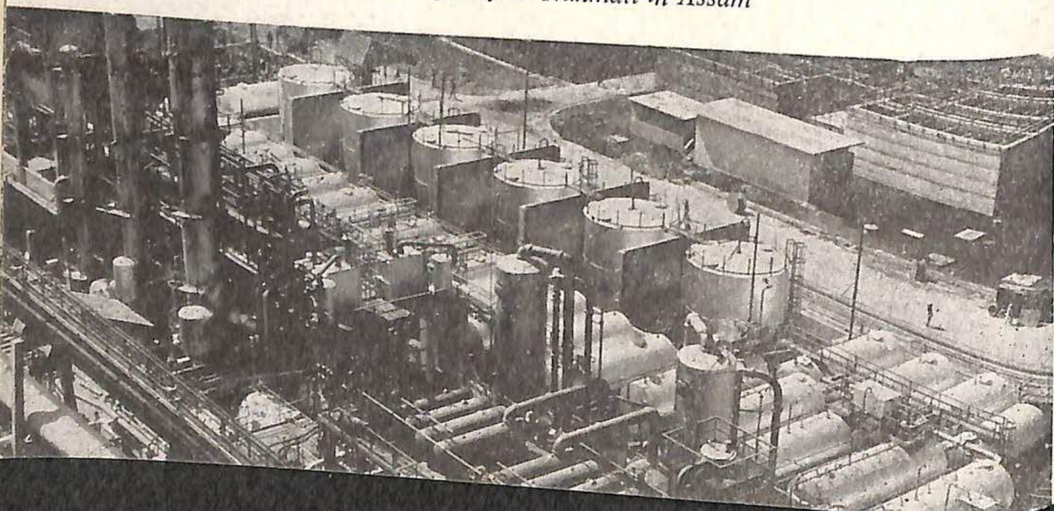


A view of the Bokaro Thermal Power Station at night



'Apsara', the experimental atomic reactor at Trombay

The oil refinery at Nunmati in Assam



capacity of about 77,460 lakh cubic metres of water. The canal system will irrigate 4.46 lakh hectares in Rajasthan and Madhya Pradesh. Besides, 80,000 kw. of power will be generated by the five generating sets at the Gandhi Sagar power station. The dam, the Kotah barrage and the power station with four units have already been commissioned. Power generation was started and water for irrigation was released in November 1960.

Work is in progress on the second stage of the project which envisages the construction of the Rana Pratap Sagar Dam and the power house below it. When completed, it will provide irrigation facilities to 1.21 lakh hectares of farmland and generate 90,000 kw. of power at 60 per cent load-factor. Work has also been undertaken on the third stage of the project which comprises the construction of the Kotah Dam and a power station at its toe. The power station will have three units of 33,000 kw. each with provision for the installation of a fourth one.

Nagarjunasagar Project

The Nagarjunasagar Project (Andhra Pradesh) envisages the construction of a masonry dam on the Krishna river and two canals, one on each side. The canals will irrigate 8.1 lakh hectares. The reservoir will have a storage capacity of 65,620 lakh cubic metres and its water-spread will be 19,078 hectares. The dam and the canal are expected to be completed in 1970-71.

The estimated cost of the project is Rs. 149.53 crores.

CHAPTER VII

INDUSTRY

The partition of the country in 1947 had disrupted the economic unity of the country and threw many of the existing industries out of gear. Having solved the immediate problems after independence, India formulated the programme of planned industrial development and the first steps were taken towards the establishment of key industries like iron and steel and automobiles and other heavy engineering products, besides industries producing essential consumer goods.

After the acceptance of a socialist pattern of society as the national objective, a new industrial policy was evolved in 1956. It laid stress on the role and responsibility of the State in promoting industrial development. It envisaged the enlargement of the public sector so as to include all industries of basic and strategic importance and those in the nature of public utility services. Other essential industries, the development of which is beyond the capacity of private enterprise, were also placed in the public sector. The new industrial policy classified industries into two Schedules—A and B. Schedule A industries became the exclusive responsibility of the State, while Schedule B industries were to be progressively State-owned, but private enterprise was expected to supplement the efforts of the State in these fields.

To inculcate productivity consciousness in the country and apply the latest techniques of increasing productivity, a National Productivity Council was set up in February 1958 as an autonomous body with representatives of Government, employers, labour and others. The Council has so far set up 47 local productivity councils in industrial centres and

six regional productivity directorates at Bombay, Calcutta, Madras, Kanpur, Bangalore and Ludhiana.

The Government has set up suitable organisations to give financial assistance to the industries. The Industrial Finance Corporation of India, established in 1948, has been giving assistance in the form of advances and long-term loans to industrial concerns. Similarly, the State Finance Corporations have assisted medium and small-scale industries. Further, the Government facilitates the import of essential raw materials, offers tax concessions to new industries and helps in securing technical help from industrially advanced countries.

Foreign Capital

To supplement capital resources for rapid industrial development, the Government has invited foreign assistance in cases where sufficient capacity for the manufacture of a particular item does not exist in the country and where it is considered desirable to secure the know-how from leading foreign firms. The present policy in regard to foreign capital is to encourage its participation subject to necessary regulation in the national interest.

According to a study by the Reserve Bank of India, the aggregate book value of foreign investments in business enterprises amounted to Rs. 735.5 crores at the end of 1962. Private sources accounted for Rs. 625.5 crores and official sources for the balance. The largest single source of the official capital was IBRD, which provided Rs. 56 crores. Countrywise, the U.K.'s investment, accounting for Rs. 482.8 crores was the largest; U.S. investments amounted to Rs. 108.9 crores.

Many other countries like the Soviet Union, the East European countries, West Germany, Switzerland and Japan are helping in the industrialisation of India through technical collaboration and credit facilities.

During the year 1965, foreign collaboration in 242 ventures was approved. Besides this, 21 proposals for setting up joint ventures in the field of engineering consultancy have been approved. They relate to hydraulic engineering, thermal power plants, synthetic fibre and films, mining and metallurgy, steel works and rolling mills, design work for ships and crafts, petroleum refineries, petro-chemical industries, nuclear power plants, etc.

Private foreign capital has also been moving into India at a steadily increasing rate in recent years.

Progress Under First and Second Plans

During the period of the First and Second Plans (1951-52 to 1960-61), there was remarkable growth and diversification of industry, particularly so in the five years of the Second Plan. Three new steel works, each of 10 lakh tonnes capacity, were completed in the public sector. These are located at Rourkela, Bhilai and Durgapur. The capacity of the two existing steel works in the private sector was doubled. The foundation was laid of the heavy electrical, heavy machine-tool and other branches of heavy engineering industries. The production of machinery for the cement and paper industries was started for the first time. In the field of chemical industries, the advance was on a wide front, leading to larger units and greatly increased output of basic chemicals, such as, nitrogenous fertilisers, caustic soda, soda ash and sulphuric acid. The manufacture of a number of new products like urea, ammonium phosphate, penicillin, synthetic fibres, industrial explosives, polyethylene, newsprint, dyestuffs, etc., was also commenced. The output of bicycles, sewing machines, telephones, electrical goods, and textile and sugar machinery was increased substantially.

New skills were learnt by the workers and a large and growing class of industrial managers came into being. Organised industrial production practically doubled in these ten

years; the index of industrial production rose from 100 in 1950-51 to 194 in 1960-61. New industrial townships and various factories sprang up in and around the principal cities of the country.

Dispersal of industry was effected by giving preference, in the location of public sector projects, to relatively backward areas whenever possible. Similarly, in the licensing of private sector projects, the claims of under-developed regions were generally kept in view.

Programmes Under Third Plan

The main emphasis in the Third Plan was on the establishment of basic, capital and producer goods industries. Machine-building programmes were given priority. The acquisition of the related skills, technical know-how and designing capacity also got a special place, so that in the following Plan periods, the growth of the economy could become self-sustaining and increasingly independent of outside aid. These priorities have been laid down as follows: completion of unimplemented or deferred Second Plan projects; expansion and diversification of capacity in the heavy engineering and machine building industries, etc.; increased production of major basic raw materials and producer goods, raising production by domestic industries of commodities required to meet important needs like essential drugs, paper, cloth, sugar, vegetable oils and housing material.

The industrial and mineral development programmes envisaged under the Third Plan entailed an outlay of about Rs. 2,933 crores. The foreign exchange component was about Rs. 1,338 crores.

Some Important Industries

Iron and Steel

Before independence, India had only three iron and steel

plants—two in the private sector and the third owned by the Mysore State. By 1950, they were producing 15 lakh tons of pig iron and over 10 lakh tons of steel. During the Second Plan, the expansion of the two private sector plants was undertaken, and these now produce 30 lakh tonnes of steel ingots.

In the public sector, the Rourkela steel plant produced 10.7 lakh tonnes of pig iron and 10.8 lakh tonnes of steel ingots in 1965. The plant's capacity is now being expanded to produce 18 lakh tonnes of ingots. The Bhilai plant has already exceeded its rated capacity and produced 14.9 lakh tonnes of pig iron and 12.7 lakh tonnes of steel ingots in 1965. The capacity of this plant is being expanded to 25 lakh tonnes of steel ingots per annum. The Durgapur plant produced 12.67 lakh tonnes of pig iron and 10.7 lakh tonnes of ingot steel in 1965. Under the Third Plan, the capacity of this plant was being expanded to produce 12 lakh tonnes of finished steel and 3,00,000 tonnes more of pig iron.

A new steel plant, with an initial capacity of 17 lakh ingot tonnes, is being set up at Bokaro with assistance from the USSR. A plant to produce alloy and special steels, with an initial capacity of 1,00,000 ingot tonnes, is being constructed in Durgapur. Government has also approved the production of 5,00,000 tonnes of tool, alloy and special steels in the private sector. Some schemes for setting up small pig iron plants in the private sector have also been sanctioned.

For the supply of washed coal to the steel plants in the public sector, Hindustan Steel Ltd., have their own coal washeries at Durgapur, Dugda, Bhojudih and Patherdih. The construction of a second unit at Dugda has almost been completed. With the Fourth Plan requirements in view, the Government has approved the setting up of two stainless steel units—one at Madras and another at Vatwa in Gujarat.

Engineering

India has attained self-sufficiency in a variety of engineering goods. The country is currently producing industrial machinery valued at about Rs. 200 crores per year, besides a large numbers of transport vehicles, diesel engines, electric motors, etc. Almost all branches of industrial machinery and electrical and light mechanical industries are showing considerable increases in output.

The two units of the Government-owned Hindustan Machine Tools Limited produced during April-December 1965, 1,023 machines valued at over Rs. 5.78 crores. The Company has set up its second machine-tool factory in the Punjab, and another in Kerala. The Hyderabad factory—the fifth unit of HMT—went into trial production in December 1965. A factory of the Company at Bangalore produced 1,96,110 wrist watches during 1965-66. Praga Tools Ltd., in Andhra Pradesh, another public sector undertaking, is also producing machine tools.

A Central Machine Tool Institute has been set up at Bangalore with Czechoslovak aid. The Institute started functioning in July 1965. Its main activities include the development of designing, training, prototype manufacture and research, etc. The cost of the project is estimated to be Rs. 1.22 crores.

A public sector factory, Hindustan Cables Ltd., in West Bengal, produces telephone cables. During January to September 1965, it produced all types of cables valued at Rs. 3.35 crores. Another factory at Bangalore (Indian Telephone Industries) produces telephones. During the Third Plan period, it produced 7,51,156 telephone instruments, 6,33,015 telephone exchange lines, and Rs. 961.44 lakhs worth of long-distance transmission equipment, and other material. The National Instruments Factory at

Calcutta produces various kinds of scientific and precision instruments. An ophthalmic glass factory is being constructed at Durgapur with Soviet technical collaboration.

A plant for producing heavy electrical equipment has been set up at Bhopal (Madhya Pradesh) with British collaboration. Some sections of this plant have already started production. Another plant is being constructed at Hardwar (U.P.) with Soviet assistance. A heavy power equipment plant and a high-pressure boiler plant are being constructed with Czech assistance.

A heavy machine-building plant in Bihar and a coal mining machinery plant at Durgapur in West Bengal are being constructed with the assistance of the USSR. Adjacent to the heavy machine-building plant in Bihar, a foundry forge plant is being set up with Czech assistance.

Locomotives and Coaches

A Government factory at Chittaranjan (West Bengal) produces railway locomotives. The factory has so far delivered nearly 2,000 steam locomotives. The production of electric locomotives was taken up in 1961 and, by the end of 1965, 48 AC electric locomotives were produced. The Government-assisted Tata factory, TELCO, manufactures metre-gauge locomotives. India has now become self-sufficient in respect of steam locomotives, wagons and coaches and has capacity even for export. Another factory has been set up at Varanasi (U.P.) to produce diesel locomotives. It has started assembling locomotives from imported components. The State-owned factory at Perambur (Madras) produces about 600 broad-gauge coaches per year. Besides, the Hindustan Aircraft Ltd. and Messrs. Jessops, a private sector company, also produce coaches.

Shipbuilding

The Government shipyard at Visakhapatnam can build four modern diesel-propelled ships a year. The yard is being expanded now. A second shipyard, with an initial capacity of 60,000 GRT per year, is proposed to be built at Cochin.

Aircraft

A State-owned factory at Bangalore has been manufacturing HT-2 trainer aircraft on a large scale since 1952. It is also building supersonic jet aircraft, Vampire and Gnat jet fighters and jet trainers. A light 4-seater aircraft and a light multi-purpose aircraft have been designed and produced at this factory. Under agreements with Britain and France, the factory has undertaken the manufacture of all kinds of Orpheus turbo-jet engines and Alouette helicopters. Another plant at Kanpur has started the production of AVRO-748 aircraft. Construction of buildings and other civil works has started at the sites of the three factories which will produce MiG-21 supersonic fighter aircraft with the technical assistance of the Soviet Union.

Chemicals and Drugs

Since independence, the chemical industry has made steady and quick progress. The establishment of the Sindri fertiliser factory in the public sector was a significant development in this direction. During April-December 1965, this factory produced 2,46,722 tonnes of fertilisers. Another public sector factory at Nangal (Punjab) produced 2,80,510 tonnes of fertilisers during the same period. A third factory at Rourkela was commissioned in December 1962, with a rated annual capacity of 5.8 lakh tonnes. The Trombay fertiliser factory, commissioned in November 1965, is the largest built so far in the country. Upto the end of January 1966, it had produced 11,437 tonnes of fertilisers. Three more fertiliser factories are being set up in the public sector.

Licences have also been granted for setting up seven fertiliser plants in the private sector.

Production of sulphuric acid, caustic soda, soda ash, calcium carbide etc., has been steadily increasing in recent years. Formaldehyde production was established for the first time in 1962. There has been a rising trend in the output of plastic raw materials, and polyester production has started on a commercial scale. Plants are being set up to produce intermediates which are at present imported. Considerable increase was recorded in the production of penicillin, tetracycline, chloramphenicol, aspirin and vitamin B12. Penicillin, streptomycin and several other modern drugs are produced by the State-owned plant at Pimpri (Maharashtra). Public sector factories at Delhi and Alwaye (Kerala) are manufacturing DDT, their combined annual capacity being 2,800 tonnes. Expansion programmes for the additional production of 4,400 tonnes of DDT at both the factories have been sanctioned.

Cotton Textiles

There are 562 cotton textile mills in India which employ about 10 lakh workers. The mills produced about 460.6 crore metres of cloth and 94 crore kg. of yarn in 1965. During 1965, licences were granted for setting up 38 new units and substantially expanding 56 units. Fourteen new mills were set up. The industry is being modernised with Government assistance.

Jute

According to a survey made in 1961, there were 96 jute mills in India employing about 2,25,000 workers. In 1965, the industry had a record production of 13.90 lakh tonnes. It exported 10 lakh tonnes of jute goods, valued at Rs. 184 crores. The industry has been modernised to a considerable extent with liberal Government assistance.

Sugar

There were 175 sugar mills in 1960-61 and their production was 30.29 lakh tonnes. Licences were later granted for establishing 72 new factories and expanding 120 existing units. This has augmented the capacity of the industry. The 1964-65 production figure of 32.58 lakh tonnes was the highest on record so far. About 2.62 lakh tonnes of sugar was exported in 1965.

Oil

At the beginning of the Second Plan, the country's resources of oil were still poorly developed. About 66 lakh tons, out of her total annual requirement of 70 lakh tons, was secured through imports. The only producing oilfield was in Assam. The Oil and Natural Gas Commission has since carried out oil exploration work in several areas. The new oilfields in Gujarat are at present supplying about 6,000 tonnes of crude oil per day. The target was to produce sufficient crude oil to sustain a 30-lakh-tonne refinery in Gujarat by the end of the Third Plan. The search for oil is being carried out mainly with assistance from the Soviet Union and Rumania.

The establishment of three refineries was accepted as part of the First Plan. Two were set up at Trombay (near Bombay) by the Standard Vacuum Oil Company (now ESSO) of New York and the Burmah-Shell Group of London. The third was established at Visakhapatnam by the U.S.A. The present capacity of all these refineries totals about 82 lakh tonnes a year.

The Indian Oil Company Ltd., a wholly Government-owned company, was incorporated in 1959 for the marketing and distribution of petroleum products in the country. The Company takes up, at refinery points, the products of the public sector refineries at Nunmati in Assam and Barauni in

Bihar. These refineries have been set up with the collaboration of Rumania and the Soviet Union, respectively.

The Oil India Ltd., in which the Government of India and the Burmah Oil Company have equal shares, was incorporated in 1959 for exploration and production of petroleum and crude oil (including natural gas) and for construction of pipelines to the two refineries in the public sector. Commercial production of crude oil commenced in 1962 when the OIL started supplying crude oil to the Nunmati refinery by pipeline. The first stage of the 158-km. pipeline from Naharkatiya to Nunmati was commissioned in 1962. The pipeline connecting Nunmati and Siliguri was commissioned in 1964.

Another public sector refinery, with a capacity of 20 lakh tonnes per annum, has been established at Koyali near Baroda in Gujarat by the ONGC, with financial and technical assistance from the USSR, to process indigenous crude oil discovered in the Gujarat region. One more refinery is being constructed in Kerala with the collaboration of an American oil company. Another refinery is to be set up in Madras as a joint venture of the Government of India, the National Iranian Oil Company and AMOCO, a subsidiary of the Pan American International Oil Company.

Coal and Lignite

The target production figure for the Third Plan period—ending in 1966—had been fixed at 985 lakh tonnes. Preliminary work has been started to expand the integrated Neyveli Lignite Project. Lignite production was proposed to be raised to 63 lakh tonnes and thermal power to 4,00,000 kw. in the Third Plan period. The Neyveli thermal power station is one of the industrial enterprises being set up under the Indo-Soviet agreement of November 1957. Six units of the station have already been commissioned.

Plantation Industries

Tea, coffee and rubber plantations are concentrated mainly in the north-east and along the south-west coast. They provide employment to over 12 lakh persons. India earns foreign exchange amounting to over Rs. 100 crores a year from tea exports. Coffee and rubber, which also used to figure in exports, are now largely consumed within the country and rubber is even imported. High priority has been given to the development of plantation industries in the Third Plan. Production of tea was to be raised from 3,322 lakh kg. to 4,100 kg. while that of coffee from 48,000 tonnes to 80,000 tonnes, and of rubber from 36,400 tonnes to 45,000 tonnes.

Small-scale and Cottage Industries

Although there has been considerable development of large-scale industries, India still remains a country of small-scale production. It is estimated that there are about 2 crore persons engaged in cottage industries. The handloom industry alone employs 50 lakh people or nearly as many as are employed in all other organised industries combined, including large-scale industries, mines and plantations. Though the work of organising these small industries is primarily the responsibility of the State Governments, the Central Government has set up a few organisations to supplement their efforts. These are : the Central Small Industries Organisation, All-India Khadi and Village Industries Commission, All-India Handicrafts Board, All-India Handloom Board, the Small-scale Industries Board, the Coir Board and the Central Silk Board.

Exports of Indian handloom products and handicrafts have been increasing in recent years. In 1964, the production of raw silk in India amounted to 19.43 lakh kg.

The production of khadi (handspun and handwoven cloth) has increased considerably in recent years. In 1952-

53, the total value of khadi produced was Rs. 1.94 crores. In 1964-65, the production increased to 806.26 lakh sq. metres and sales to Rs. 21.12 crores. This cottage industry provides employment to more than 19.5 lakh persons.

The coir industry is mainly carried on as a cottage industry. Of an estimated annual production of 1,42,000 tonnes of coir yarn, more than 90 per cent is produced in Kerala. A large quantity of coir products is exported.

During the First and Second Plan periods, Rs. 218 crores (Rs. 175 crores during the Second Plan) were spent by the Government for the development of the village and small industries; a sum of Rs. 264 crores was provided in the Third Plan for the purpose.

CHAPTER VIII

TRADE

Until recently, India had a pattern of foreign trade which was traditionally that of a colonial and agricultural country. The favourable balance of trade concealed a low level of industrial production. The present trade-deficit is an inevitable result of industrialisation. Internal industry consumes a good part of what was formerly being exported. The volume of imports has also increased because of much needed machinery and other materials.

The total value of India's foreign trade in 1964-65 was Rs. 2,077.37 crores; imports accounting for Rs. 1,262.81 crores and exports for Rs. 814.56 crores. The UK, the USA, West Germany, the USSR and Japan are India's principal buyers.

The principal articles of export are tea, jute products, textiles, silk, footwear, hides and skins, raw cotton, tobacco, cashew kernels, wool, vegetable oils, pepper and other spices, manganese ore, iron ore, coal, mica and lac. Many light engineering goods are also being exported, notably electric fans and sewing machines. The main items of import are machinery, metals, chemicals and dyes, foodgrains, kerosene and other mineral oils, artificial silk and staple yarn, motor parts and instruments, paper and newsprint, drugs and medicines, raw jute and cotton.

An element of diversification is now visible in the export trade. India's exports to the USSR and other East European countries increased from about Rs. 3.3 crores to Rs. 153.6 crores between 1953—1965, forming 19 per cent of the total exports during this period. The trade with these countries is

further increasing. Exports to African countries have also registered an increase.

India's exports, including re-exports, during the calendar year 1965 stood at Rs. 807.5 crores. This showed a nominal decline of Rs. 2.3 crores as compared to 1964. On the other hand, imports at Rs. 1,383 crores were higher than the figure of Rs. 1,334 crores during 1964. Thus, the increase in the trade deficit of a little over Rs. 50 crores was mainly on account of higher imports, particularly in the case of cereals and capital goods.

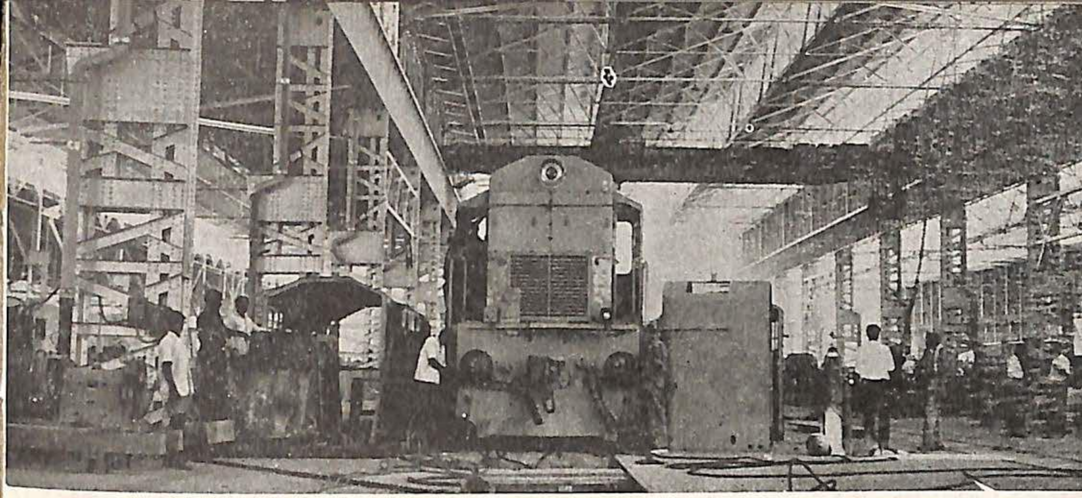
To stimulate exports, the Government established eighteen Export Promotion Councils for different commodities. The Councils conduct surveys of foreign markets, and do research in better and new uses of commodities, etc.

Trade agreements have been signed with other countries to reduce the imbalance in payments. Measures have also been taken to increase export earnings. The number of trade and payments agreements in force at the end of 1963 was 31.

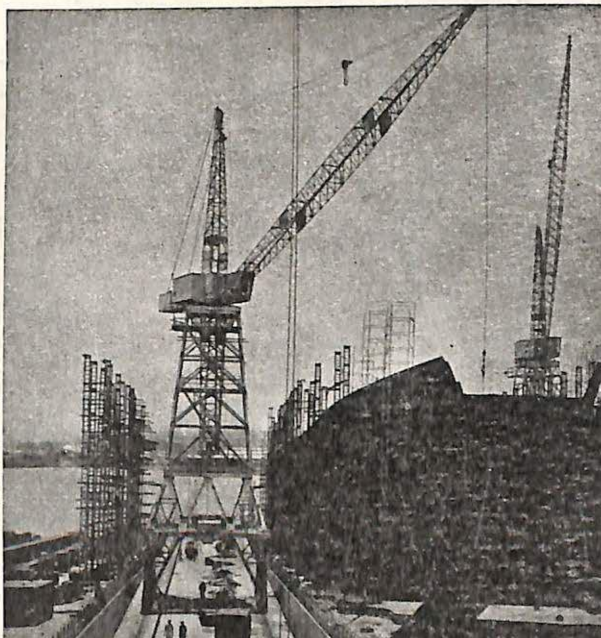
The Indo-USSR Trade Agreement concluded in 1963 provides for all payments to be effected in Indian rupees. The main items of export from India to the Soviet Union are tea, coffee, spices, cashew-nuts, raw wool, handicrafts, jute manufactures, cotton and woollen fabrics, leather footwear, etc. Among the main items of import from the Soviet Union are rolled iron and steel, oil prospecting and drilling equipment, industrial equipment and machinery, tractors and agricultural machinery, newsprint, petroleum products, fertilisers, etc.

A new five-year Trade Agreement between India and the USSR was signed on 7th of January, 1966. Under the agreement, the total volume of trade between the two countries, in the five years from 1966 to 1970, is expected to touch the figure of Rs. 1,300 crores.

During 1965, new trade agreements were concluded with Uganda, U.A.R., Sudan and Ceylon. Trade agreements with



A view of the assembly shop in the Diesel Locomotive Works, Varanasi



Ship under construction in a berth at the Hindustan Shipyard, Visakhapatnam

The famed Gnat jet fighter-aircraft of the Indian Air Force is produced by the Hindustan Aircraft Limited, Bangalore. Here is a view inside the factory showing a batch of these versatile fighters receiving finishing touches



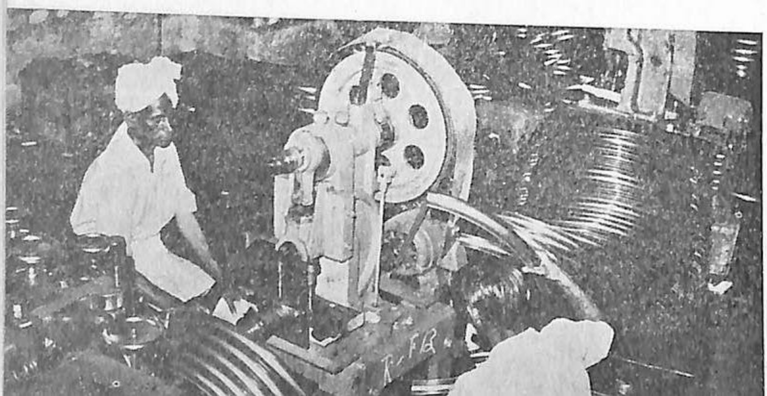


Cars being assembled in an automobile factory in Bombay



Hosiery manufacture is one of the important small-scale industries. A large number of small hosiery factories, like the one here, have been set up in various towns all over India.

Manufacture of mud-guards for bicycles. Bicycle-making has become one of the major light industries in India, with a very impressive production record.





A broad, cement-concrete road near Bombay, which is a part of the National Highway in western India.



Air-conditioned Chair-car (Class III) in one of the air-conditioned trains running on the trunk routes of the Indian Railways. It is one of the innovations made by the railways to provide comforts and better amenities to passengers.

A rail-cum-road bridge spanning one of the mighty rivers of India. About 140 major bridges over the rivers have been built during the three Five Year Plans.



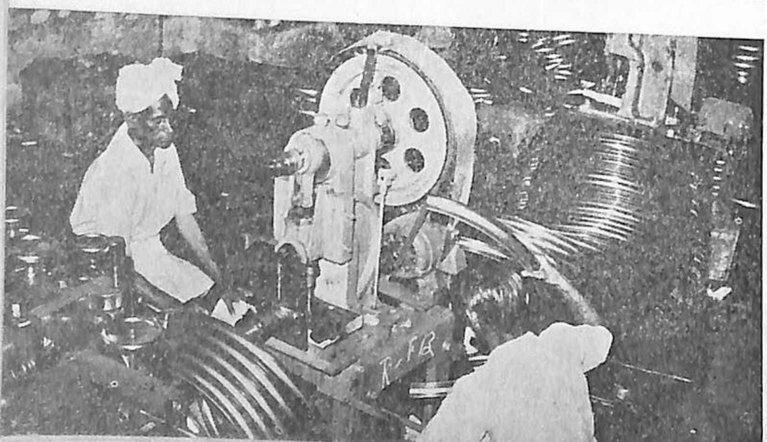


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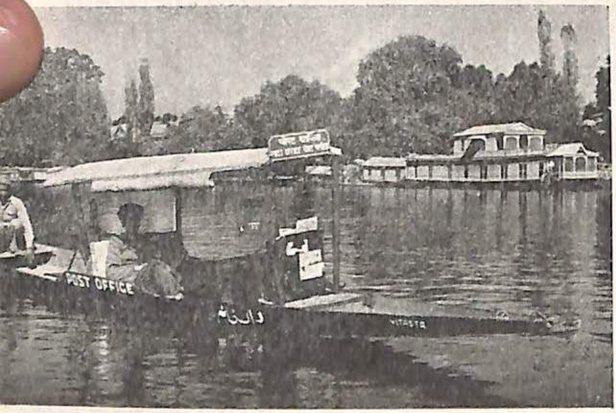




Sorting of mail is an important part of the work in the Post Office. Quick and efficient work by the sorters helps in speedy despatch.

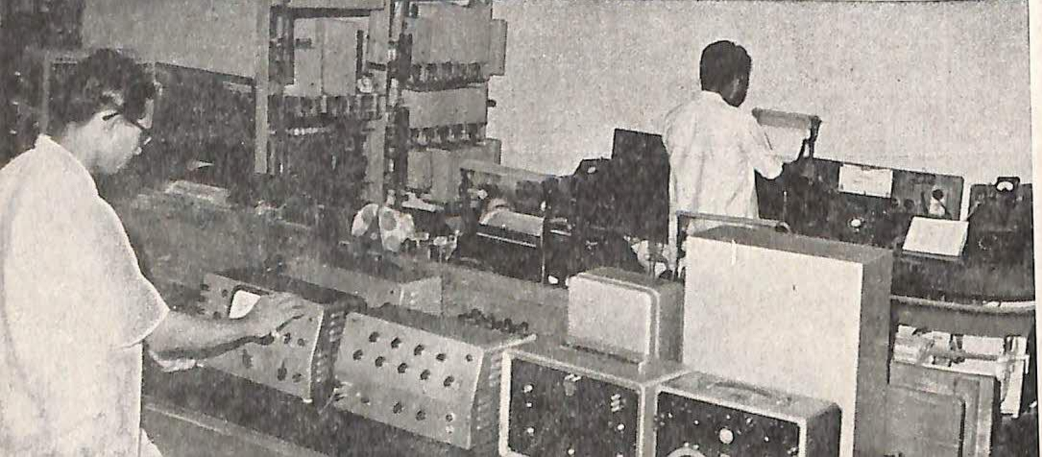


Mail bags being loaded on to an aircraft of the Indian Airlines Corporation. Carriage of mail by air has speeded up the delivery of letters for distant destinations.



A Mobile Post Office on Lake Dal in Srinagar (Kashmir)

Inside the laboratory of the Telecommunications Research Centre. Work at this Centre has helped in introducing many improvements in the telephone and telegraph systems.



France and Greece were renewed and the arrangements with the Democratic Republic of Vietnam, Afghanistan and Iran were extended for varying periods.

State Trading Corporation

The State Trading Corporation was set up in May 1956 in order to stimulate foreign trade by diversifying and developing it. It purchases such items as cement, caustic soda, fertilisers and silk, and makes arrangements for the export of commodities like shoes, handicrafts, salt, tea, coffee and woollen goods. The task of canalising all exports of iron ore was entrusted to the Corporation in 1957. During 1965, the Corporation handled trade worth about Rs. 104.38 crore.

Another corporation called the Minerals and Metals Trading Corporation was set up in 1963 to deal with the export of minerals and metals.

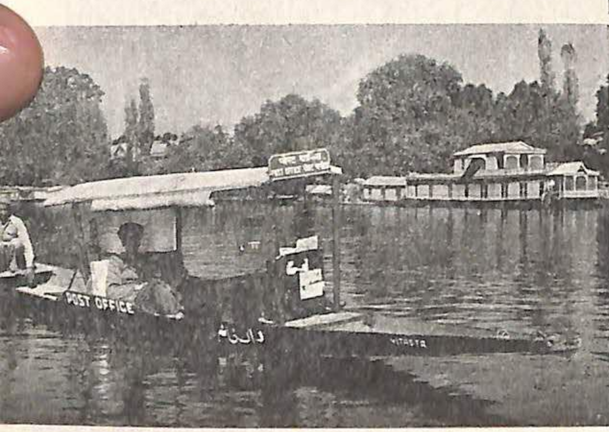
In September, 1964, a new trade corporation, namely, the Metal Scrap Trade Corporation was established in order to procure, purchase, process and import and export ferrous and non-ferrous scrap and maintain and promote exports of and trade in scrap metal.



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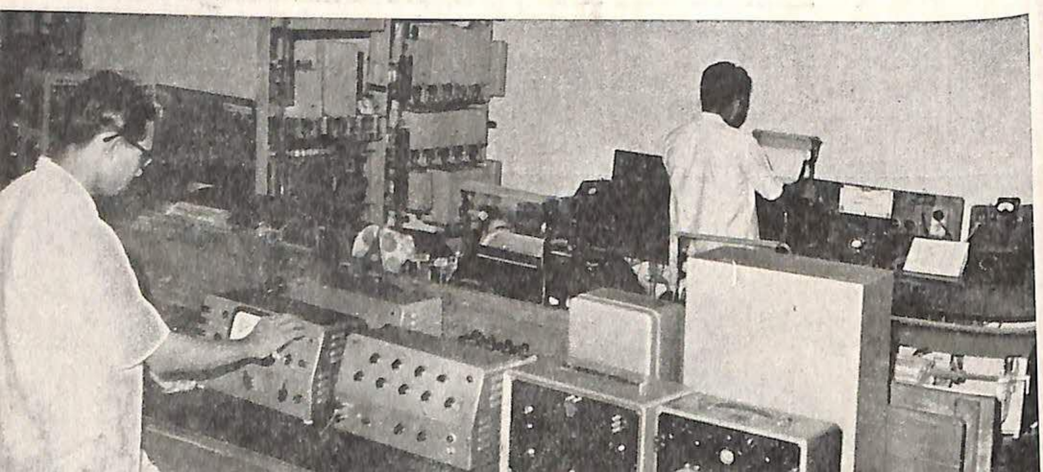


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France and Greece were renewed and the arrangements with the Democratic Republic of Vietnam, Afghanistan and Iran were extended for varying periods.

State Trading Corporation

The State Trading Corporation was set up in May 1956 in order to stimulate foreign trade by diversifying and developing it. It purchases such items as cement, caustic soda, fertilisers and silk, and makes arrangements for the export of commodities like shoes, handicrafts, salt, tea, coffee and woollen goods. The task of canalising all exports of iron ore was entrusted to the Corporation in 1957. During 1965, the Corporation handled trade worth about Rs. 104.38 crore.

Another corporation called the Minerals and Metals Trading Corporation was set up in 1963 to deal with the export of minerals and metals.

In September, 1964, a new trade corporation, namely, the Metal Scrap Trade Corporation was established in order to procure, purchase, process and import and export ferrous and non-ferrous scrap and maintain and promote exports of and trade in scrap metal.

CHAPTER IX

TRANSPORT AND COMMUNICATIONS

RAILWAYS

With a route length of 58,300 km. the Indian railway system is the second largest individual railroad network in the world and the biggest nationalised undertaking in the country. About 50 lakh persons and over 5 lakh tonnes of goods, on an average, are carried by the railways daily. The capital-at-charge of the railway, at the end of 1964-65, stood at Rs. 2,44,189 lakhs and the gross earnings at Rs. 66,604 lakhs. They employed 13 lakh persons. The 37 railway systems, which existed in India before August 1949, have been grouped into nine zones with a view to effecting economy and efficiency in administration. Steps were taken to make the railways self-sufficient to a large degree. During the First Plan period, 1,586 locomotives, 4,758 coaches and 41,192 wagons were placed on the line. During the Second Plan, 2,172 locomotives, 7,515 coaches and 97,994 wagons were acquired on additional replacement account. One thousand four hundred and ninety-nine new locomotives, 6,183 new passenger and other coaching vehicles, 412 electric multiple units and 1,11,370 wagons were placed on the line during the first four years of the Third Plan.

Further expansion of the rail network is being made to meet the growing needs of industrial development, a growing population and the demands of defence. Besides increasing passenger traffic by 15 per cent, the Third Plan has provided for laying many new lines and acquiring thousands of new locomotives, coaches and wagons.

Electric traction, first introduced in 1925, is confined to regions near Bombay, Madras and Calcutta. More than

2,100 route kilometres have been electrified so far. Diesel traction is also being adopted on an increasing scale. About 486 diesel locomotives are in use at present.

Travel conditions and passenger amenities on the Indian railways have been steadily improving during recent years. The cost of travel by the third class is perhaps the lowest in the world.

The Railway Board is responsible for the over-all control and administration of the railways. Constant and close consultation between the public and the railway administration is secured through regional and divisional committees.

Roads

In 1947, when India became independent, there were only 1,45,855 km. of metalled roads and about 2,42,371 km. of unmetalled roads. The total road length in 1961 was 7,05,000 km. Since then, it has risen much above that figure, making an average of 29.7 km. of road per 100 sq. km. of area. Work is in progress on a plan to increase this average to 32 km. of road per 100 sq. km. of area. This would bring every village in a developed and agricultural area within 6 km. of a metalled road and 2.5 km. of some kind of road.

As against the target of 40,200 km. of surfaced roads during the Third Plan period, 30,250 km. were constructed by the end of the year 1964. A net addition of 1,12,650 km. of unsurfaced roads was made during the same period.

Under the National Highways Act, 1956, national highways and certain selected roads of strategic or other importance are the Central Government's responsibility, while the State highways and district and village roads are cared for by the State Governments.

The total length of national highways in 1964 was 24,020 km. The longest highway is the Grand Trunk Road

which runs from Calcutta to Amritsar, a distance of over 1,930 kilometres.

An important achievement has been the construction of a tunnel at Banihal (2,226 metres high)on the road to Srinagar, which now provides an all-weather link between Kashmir and the rest of India. The tunnel consists of two tubes, each for single-lane traffic.

Improvement of vehicular transport is also an integral part of India's development plans. There are now over 8,66,338 motor vehicles on the roads in India compared to 2,11,949 in 1947. State-operated services, providing mainly passenger transport, now exist in most States.

Inland Water Transport

The length of navigable waterways in India is over 8,800 kilometres. Of this, about a third are navigable by mechanically-propelled vessels and the rest by large country-boats. The more important waterways are the rivers Ganga, Brahmaputra, Godavari and Krishna, the backwaters and canals of Kerala, the Buckingham Canal and the coastal canals of Madras and Andhra States, and the Mahanadi canals in Orissa.

The Third Plan provided more than Rs. 8 crores for the development of inland water transport. The Plan provided for the purchase of survey launches, dredgers and tugs and the development of river ports.

Shipping and Ports

With a coastline of more than 5,630 kilometres, India has always occupied an important position in the maritime world. Since 1947, special measures have been taken to develop shipping services and ports. The coastal trade is now carried entirely in Indian vessels, but the position as regards overseas trade is not so satisfactory.

Ships totalling 14.60 lakh GRT are on the Indian

Register. Of these, about 33 per cent are engaged in the coastal trade and 66 per cent in the overseas trade. The total tonnage was expected to rise up to 15 lakh GRT by the end of the Third Plan. Indian cargo vessels sail to other Asian countries, as also to Europe, the USA and Australia.

India has seven major ports—Calcutta, Bombay, Madras, Mormugao, Cochin, Visakhapatnam and Kandla. The last named was established to make good the loss of Karachi after Partition. A provision of Rs. 75 crores has been made in the Third Plan for the development of six major ports. This includes schemes for the setting up of a satellite port at Haldia, near Calcutta. The Third Plan also provided for the development of Mangalore and Tuticorin as major ports.

Besides the major ports, there are a large number of minor ports (about 225 of which 150 are working ports) handling about 79 lakh tonnes of overseas and coastal traffic per annum.

CIVIL AVIATION

Air services in India are run by two statutory corporations—Air-India and the Indian Airlines Corporation. During the year 1965, Indian aircraft flew about 570 lakh km. carrying about 16.2 lakh passengers and nearly 620 lakh kg. of cargo and mail on scheduled and non-scheduled services taken together. Since 1947, the passenger traffic has increased more than five times and the cargo loads have gone up more than 14 times.

The Indian Airlines Corporation links up most of the principal cities in the country and also provides services to the neighbouring countries. Air-India—India's airline for international operations—provides services reaching out to more than a score of countries. The fleets of the two Corporations are being progressively modernised.

There are 84 aerodromes in the country. These are controlled and operated by the Directorate-General of

Civil Aviation. After the achievement of independence, an ambitious programme for the development of aerodromes and for the provision of a high-grade telecommunication service was taken up. It has been fully implemented. There are 19 subsidised flying clubs, three Government gliding centres and six private subsidised gliding clubs in the country.

METEOROLOGY

The weather reporting and forecasting services play a crucial role in transport and communication, especially in regard to aviation and shipping.

The Indian Meteorological Department, with its headquarters at New Delhi and regional offices at Bombay, Calcutta, New Delhi, Madras and Nagpur, provides a weather forecasting service.

The scientific activities of the Department cover observation and research in climatology, atmospheric electricity, geomagnetism, seismology and astrophysics, including solar and stellar physics and radio astronomy, through its divisions and observatories at Poona, Shillong, Colaba, Alibag and Kodaikanal.

The Department's Northern Hemisphere Analysis Centre, located at New Delhi, has attached to it one of the five Northern Hemisphere Exchange Centres spread over different countries and a sub-continental broadcast centre for the exchange and dissemination of meteorological data for international use.

The Institute of Tropical Meteorology at Poona is engaged in research work in meteorology and allied fields.

A special unit has also been constituted at Trivandrum for collaboration with the Department of Atomic Energy in India's programme of launching rockets for peaceful purposes.

TOURISM

India has attracted travellers throughout its history. Since the attainment of independence, special measures have been taken by the Department of Tourism, Government of India, for encouraging tourism. There are regional tourist offices in Bombay, Calcutta, Delhi and Madras and sub-offices at Agra, Varanasi, Jaipur, Aurangabad, Bangalore, Darjeeling, Bhopal and Cochin. Abroad, India has tourist offices in New York, San Francisco, Chicago, London, Melbourne, Paris, Toronto and Frankfurt. Tourist information material in the form of guide books, folders, maps, posters and picture cards is produced in various languages and distributed through tourist offices in India and abroad. Under the development plan, tourist spots all over the country have been improved and many new amenities and facilities for tourists have been provided.

Hotels in India have been graded according to the standard of comfort and service available and the rate structure has been rationalised. Currency, customs and other regulations have been relaxed for tourists. The State Governments also run tourist bureaux at places of special interest. A total of 1,47,900 foreign tourists visited India during the year 1965. The India Tourism Corporation was set up in March 1965, with an authorised capital of Rs. 50 lakhs, to undertake commercial activities for the promotion of tourist traffic.

The India Tourism Transport Undertaking, which is a subsidiary of the India Tourism Corporation, has been established with an authorised capital of Rs. 19 lakhs. Its function is to provide special transport facilities for tourists.

POSTS AND TELEGRAPH SERVICES

The postal and telecommunication services of India together form the second largest State undertaking, next only to the railways. The post and telegraph services provide em-

Chapter X

EDUCATION AND SCIENTIFIC RESEARCH

After independence, literacy in India has increased in a large measure and about a quarter of India's population is now literate. This includes more than a third of the males and an eighth of the females of all ages. The State of Kerala has the highest literacy figure of 46.8 per cent, after Delhi which has a percentage of 52.7.

Education had made steady progress during the first two Plans. The expenditure on education in 1950-51 was Rs. 114.38 crores spread over 2,86,860 educational institutions having 255.43 lakh pupils. In 1955-56, Rs. 189.66 crores were spent on 3,66,641 schools and colleges with 339.24 lakh pupils. In 1962-63, Rs. 436.57 crores were spent on 7,26,955 institutions with 579.74 lakh pupils.

Primary Education

All primary education is free in State-run or State-aided schools. Legislation for compulsory primary education has been enacted in a number of States. Plans have been in operation to train 15 lakh teachers by 1966. The number of children in elementary schools increased from 1.83 crores to 2.95 crores during the first decade of planned development (1951-1961).

One of the most important aims of educational policy in recent years has been to equip the students for the vocational needs of society and lessen the earlier emphasis on a merely academic education. Elementary education is gradually being given a craft-bias and many schools are being converted into 'basic schools'. The basic schools are largely modelled on the educational ideas of Mahatma Gandhi. These schools

follow a curriculum in which learning is correlated with the physical and social environment of the children and also with productive activities like spinning and weaving, gardening, carpentry, leather-work, etc.

Secondary Education

A special Commission reported in 1953 on the reforms necessary in the secondaiy education system. The main recommendation of the Commission was that secondary schools should cease to be regarded as feeders to universities, but should provide varied instruction so as to equip young people for the tasks of citizenship. The Commission suggested several measures to improve facilities for teaching of science, technology, commerce, agriculture, home science and the fine arts, as also for the training of teachers. These recommendations are being implemented.

Secondary education has made remarkable progress in India during recent years. From 20,884 in 1950-51, the number of secondary schools rose to 82,846 in 1962-63. A pupil has to spend eleven to twelve years in primary and secondary schools in order to be eligible for university education.

University Education

There are 62 universities in India. They are of three types—affiliating, affiliating-and-teaching, and residential-and-teaching. They are all governed by Acts of legislatures. The oldest are the Universities of Calcutta, Bombay and Madras, which were founded in 1857.

Four universities are under the direct management of the Central Government. They are the Aligarh, Banaras, Delhi and Visvabharati Universities.

Various measures have been taken to reorganise higher education to make it better suited to national needs. These are based on the recommendations of the University Educa-

ployment to 4,70,370 persons, while their capital outlay is about Rs. 243.43 crores.

The number of post offices in the country has increased over four times since independence when the figure was only 22,000. The Government's goal is to provide a post office for every group of villages within a radius of two miles. Already, all villages with a population of more than 2,000 have their own post office.

The postman calls three to four times a day in the major cities, and one of the special features of the Indian postal service is that all letters and money orders are carried by air between the principal cities without any air surcharge. Air mail routes total 58,683 kilometres.

The Urban Mobile Post Office Scheme is in operation in Nagpur, Ahmedabad, Madras, Delhi, Bombay and Calcutta. About 50 post offices in the country termed as 'Night Post Offices' function for a longer duration during week days and are open on Sundays as well.

There are about 12,151 telegraph offices and they handle a traffic of about 414 lakh telegrams a year. The Department of Posts and Telegraphs also undertakes work connected with Savings Bank, Life Insurance and the sale of National Savings Certificates. The Hindi telegraph service, introduced in 1949 first at Agra, Allahabad, Gaya, Jabalpur, Kanpur, Lucknow, Nagpur, Patna and Varanasi, is now available at 2,267 offices in the country.

There are about 7,66,000 telephones in use in the country. Telephones and most of the exchange equipment are manufactured in India by public-sector units. The principal factory is that of the Indian Telephone Industries at Bangalore.

A factory was recently established to manufacture teleprinters and it produced 2,261 machines in 1965.

India has got an extensive telecommunication system linking it with a large number of foreign countries. International Telex Service from India is now available to 57 countries.

This international wireless telegraph, telephone and photo service is operated by the Government's Overseas Communication Service. India has also recently entered the field of communication through the Global Satellites System.

tion Commission which was headed by Dr. S. Radhakrishnan, later the President of India.

The main suggestions of the Commission were directed towards securing an improvement in the teaching standards in universities and in the living conditions of teachers, and towards providing a diversification of study opportunities so that students could take up professional courses in greater numbers. The Commission also favoured the establishment of rural institutes which would conduct courses in agriculture and rural engineering.

There are 14 rural institutes functioning in the country. They offer courses in rural engineering, agricultural science and allied subjects. Social education provides the educational base for community development programmes in the country. It promotes literacy, use of libraries, education in citizenship, cultural and recreational activities, and utilisation of audio-visual aids.

As proposed by the Commission, the Central Government set up, in 1953, the autonomous University Grants Commission for determining standards of teaching and affording facilities for study and research.

Besides the universities, a large number of institutions afford opportunities for higher learning. The number of students in the higher educational institutions had risen from 403,519 to 11,61,693 between 1950-51 and 1962-63.

Technical Education

In order to meet the requirements of India's developing economy, facilities for technical education have been greatly expanded. In 1951, there were only 142 institutions for higher technical education in India. This number is estimated to have increased to 407 in 1965. The number of trained personnel turned out by them has spurted from 5,319 to 27,600.

Education of the Handicapped

A National Advisory Council advises the Government on all problems concerning education, training and employment of the physically and mentally handicapped. The National Centre for the Blind at Dehra Dun (U.P.) provides an integrated service for the blind. Scholarships are awarded to blind, deaf and otherwise physically handicapped students for higher education and for technical or professional training. A national library is being built up at this Centre, largely with literature produced by its own press. The library caters to the needs of the blind throughout the country.

A training centre for the adult deaf has been established at Hyderabad (Andhra Pradesh). Special Employment Exchanges for the handicapped which are located at Bombay, Delhi, Hyderabad, Madras, Calcutta, Ahmedabad, Bangalore, Chandigarh and Kanpur help to place the handicapped persons in suitable occupations.

Scientific Research

The Council of Scientific and Industrial Research (CSIR) is the chief vehicle of the Government's policy in the promotion and co-ordination of scientific and industrial research in India.

The Council has under its control 28 national laboratories and institutes. It also awards grants-in-aid to scientists in research institutions and universities and disseminates scientific knowledge and information. Valuable research work is also carried on by universities, independent research organisations and the laboratories of industrial houses.

Liaison units are functioning in most of the laboratories to maintain contact with the industries, trade associations and those who utilise the fruits of research.

Atomic Energy Commission

The Atomic Energy Commission is in charge of the planning and implementation of programmes for the development

of atomic energy for peaceful purposes. The programme aims at the promotion of the use of atomic energy in agriculture, biology, industry and medicine, mainly through the production and application of radio-isotopes and the development of atomic energy as a source of electric power.

The national centre for nuclear research and development is the Atomic Energy Establishment at Trombay, near Bombay. The Establishment consists of five major groups, Physics, Chemistry, Electronics, Engineering and Metallurgy. These groups are divided into 15 divisions, including the Biology, Medicine and Health Divisions.

There are three nuclear reactors at the Trombay Establishment. Other production facilities at Trombay include a thorium plant and a uranium metal plant producing, respectively, thorium and uranium of high purity required for use in reactors. The first atomic power plant is being set up at Tarapur, 90 km. from Bombay.

On the industrial side, it is proposed to produce all the materials required for the implementation of the entire atomic power programme. The Indian Rare Earths (Private) Ltd., established in 1950, has set up a plant at Alwaye in Kerala State, which processes monazite sands and produces rare-earth chlorides and carbonates as main products and trisodium phosphate as a by-product. The Thorium-Uranium Plant of the company at Trombay treats the residual cake which is left over after the rare-earth content of monazite has been extracted. The Travancore Minerals (Private) Ltd., set up in October 1956, has taken over the exploitation of the monazite deposits in South India. Heavy water is produced in quantity, as a by-product, at the fertiliser plant at Nangal. Plutonium production has also been started recently.

Medical Research

Medical research in India has gained considerable momentum in recent years. The Indian Council of Medical

Research, founded in 1912, has contributed greatly to the fostering and co-ordination of medical research in India. An All-India Institute of Medical Sciences has been established in New Delhi. The All-India Institute of Hygiene and Public Health, Calcutta, provides training in the use of preventive and social medicine. The School of Tropical Medicine, Calcutta, carries out research in diseases peculiar to tropical areas. The National Institute of Communicable Diseases at Delhi carries out research in methods of eradicating diseases like malaria and small-pox, etc.

The Haffkine Institute, Bombay, has been a pioneer in the large-scale manufacture of vaccines, sera and other biological products. It is the chief centre for research in the prevention and treatment of plague. The scope of the Institute's work has been enlarged to cover the problems of nutrition, malaria and virus diseases.

Other important institutions for medical research are the Institute of Preventive Medicine, Guindy, Madras; the Vallabhbhai Patel Chest Institute, Delhi; the Indian Cancer Research Centre, Bombay; the Central Research Institute Kasauli; the Pasteur Institute, Coonoor; and the Central Drugs Laboratory, Calcutta.

CHAPTER XI

HEALTH AND SOCIAL SERVICES

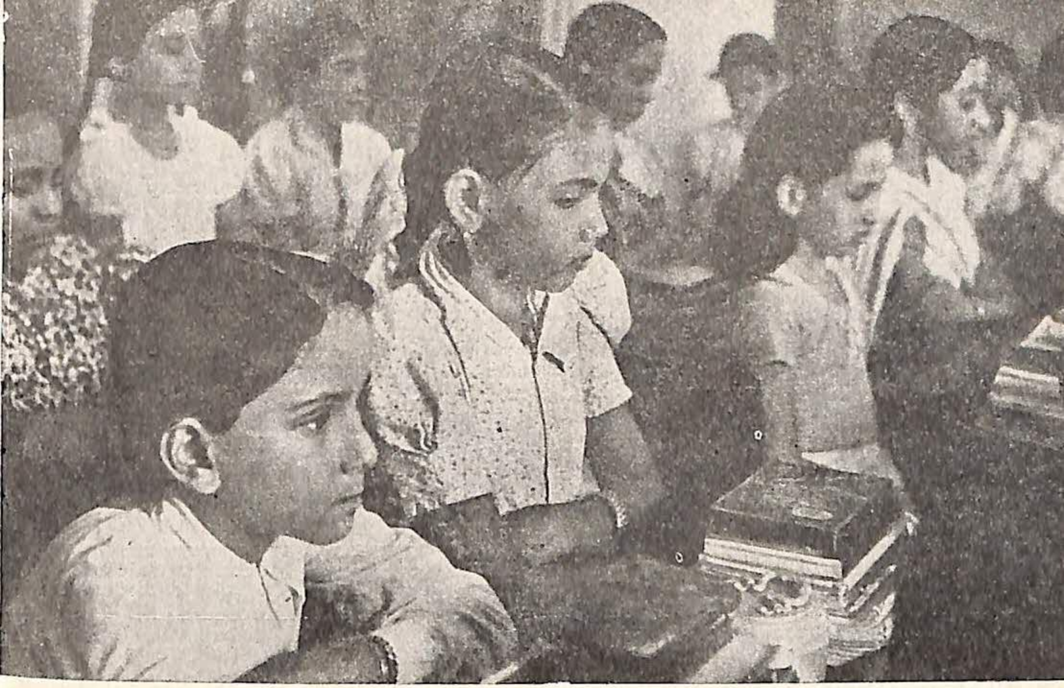
Health programmes are primarily the responsibility of the State Governments. The Union Government, however, sponsors and supports major schemes for improving the health of the people provided for in the Five Year Plans. The outlays in the First and Second Plans on health and family planning were Rs. 140 crores and Rs. 225 crores respectively. The Third Plan had provided about Rs. 341.80 crores under this head.

As a result of the implementation of the public health programmes, the death-rate has fallen from 26 per thousand in 1951 to 17.2 per thousand in 1965; infant mortality from 155 to 135 per 1,000 live births; and maternal mortality from 20 to 12.4 per 1,000 live births. Average life expectancy has risen to about 50 years from 32 years at the time of independence.

A rural health service, with a "primary" health centre in every rural development block has been launched. Each primary centre, which includes a dispensary and four to six hospital beds, is staffed with a doctor, nurse-midwives and a sanitarian. It is the focal point of the rural health service. There is now a network of 4,373 health centres.

The number of hospitals is steadily increasing. In 1951, there were 8,600 hospitals and dispensaries with 1,13,000 beds. Their number increased to 12,600 and 1,85,600 respectively, in 1960-61. At the end of 1964, there were 4,503 hospitals and 10,511 dispensaries with a bed capacity of 2,76,226. The number of maternity and child welfare centres was 8,444.

At the end of 1966, there were 86,000 doctors, 45,000 nurses, and 35,000 midwives.



Girl-students in a primary school. The education of children has received the greatest attention during the past 15 years. Primary education is free in almost all States.

Girl-students listening attentively to their teacher giving lessons in geography. The number of school-going girls has risen to 22 million from 6 million in 1951.

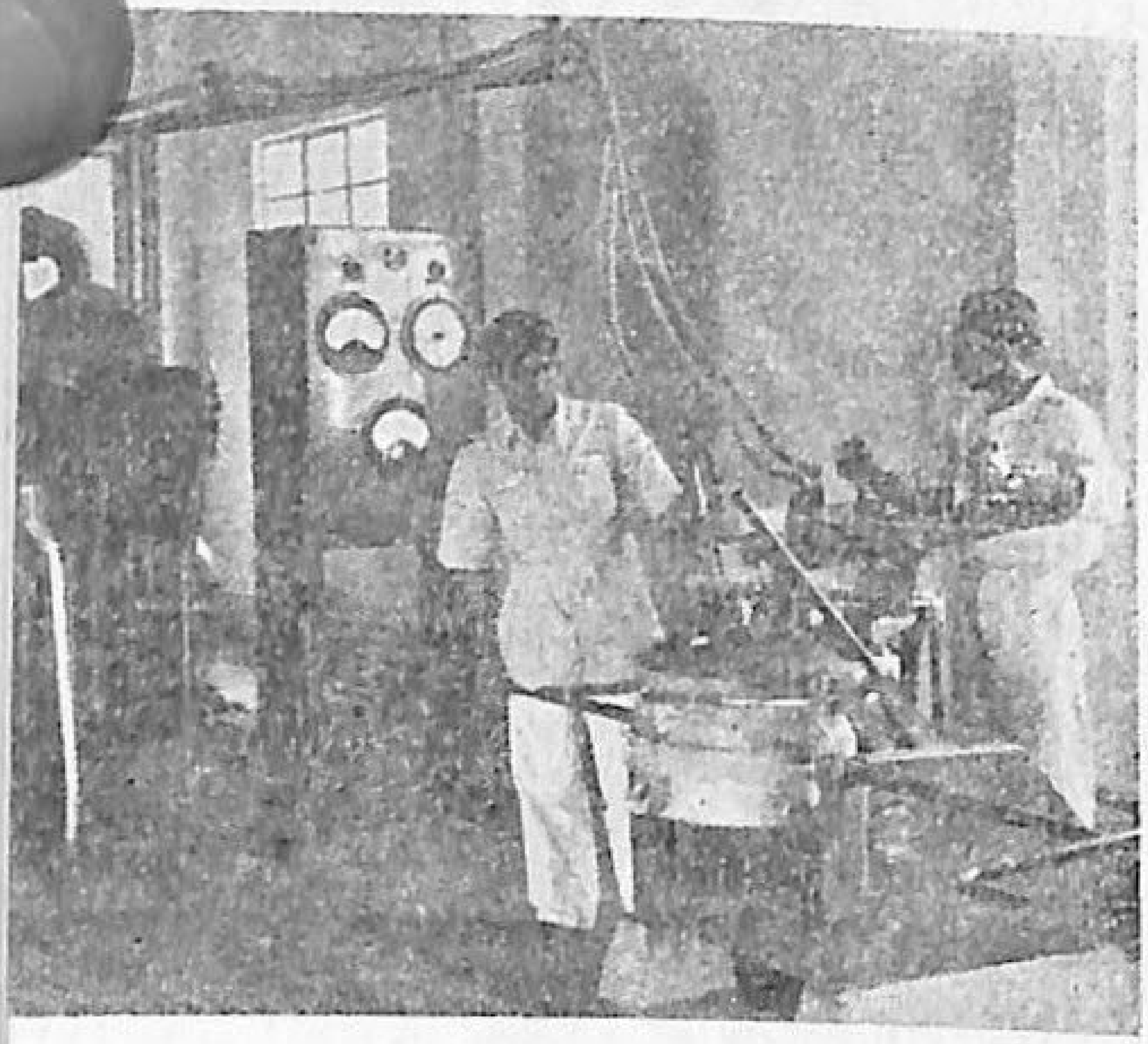




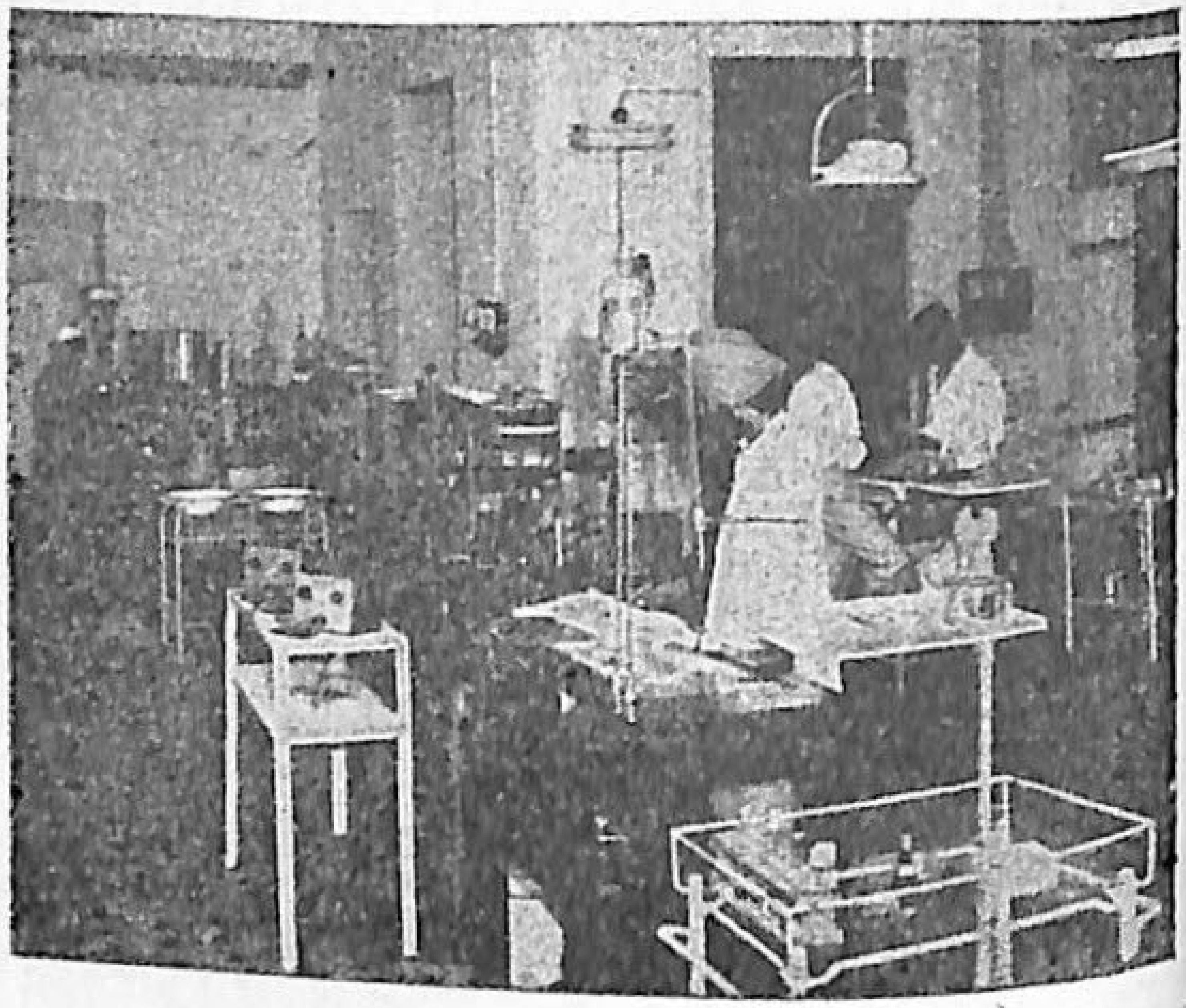
Budding scientists in a school's chemical laboratory



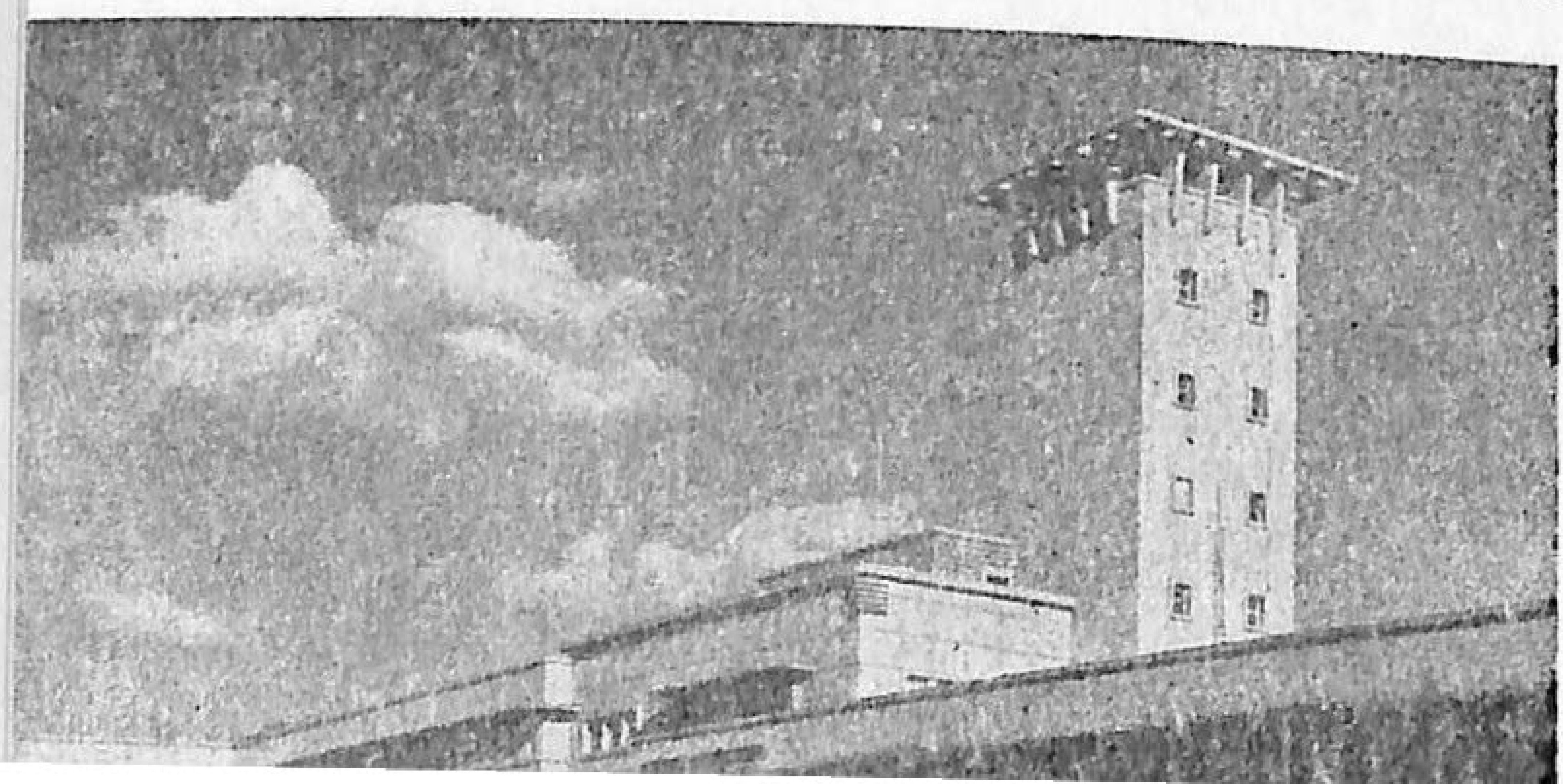
Building of the National Chemical Laboratory, Poona



Conducting an experiment in the Institute, of the Nationa lMetallurgical laboratory Jamshedpur



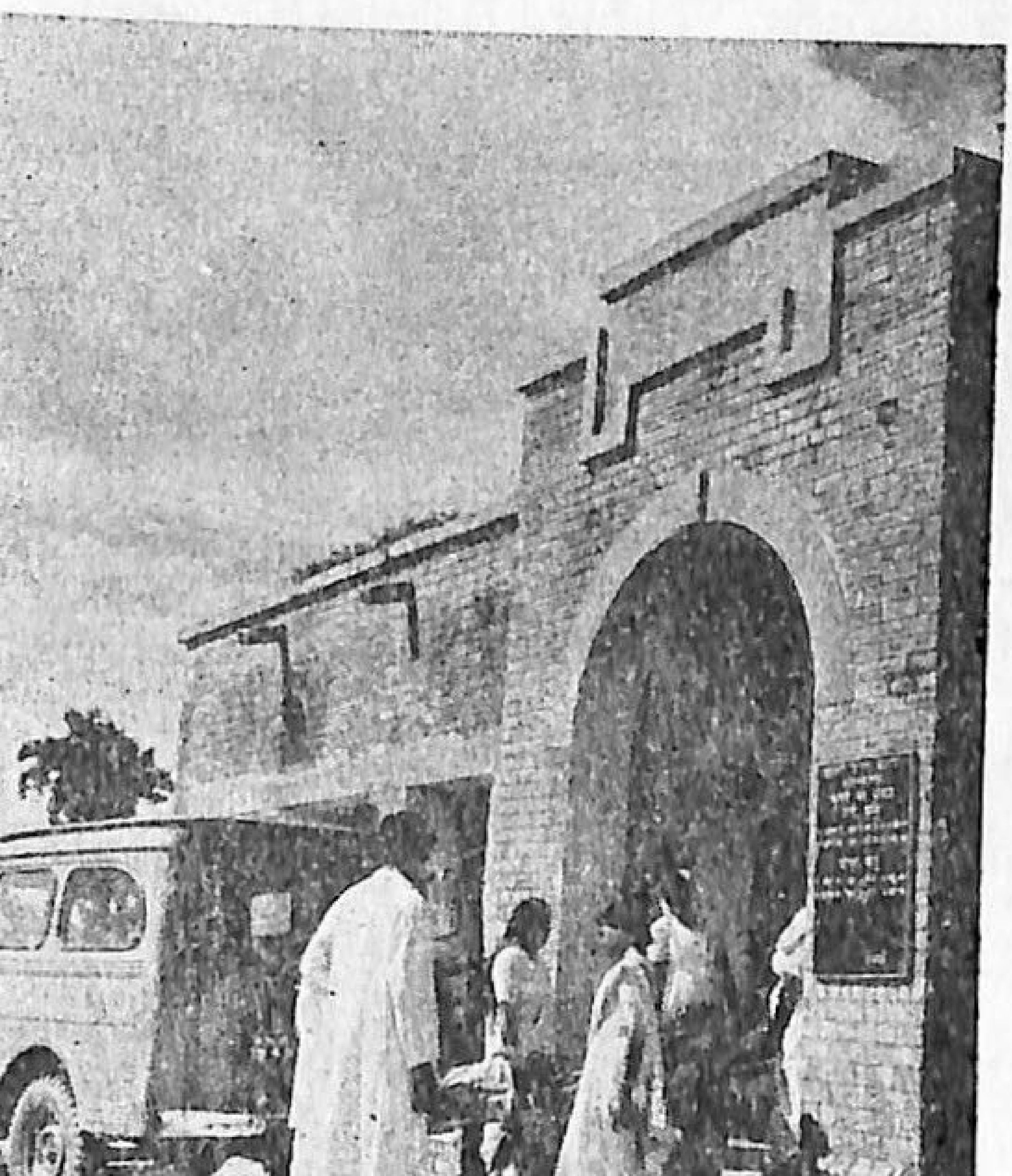
A view of the pharmacological laboratory in the National Drug Research Institute, Lucknow



The building of the National Physical Laboratory in New Delhi



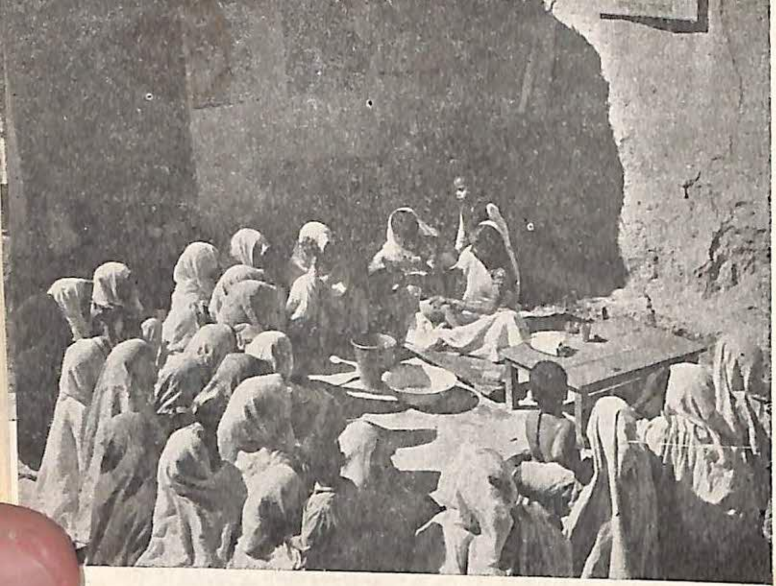
Villagers receive medical attention in a rural health clinic



Primary health centre in a rural area



Physician of a mobile dispensary examines an ailing child



A Gram Sevika educates village women in child health and hygiene



Student-nurses at study. The training programme of nurses has been stepped up and facilities have been greatly increased to cope with the increasing demand for trained nurses.



An instructor explains the working of contraceptive devices to midwives receiving training for family planning schemes.

Communicable Diseases

Steps have been taken to control communicable diseases. Because of vaccination campaigns carried out during recent years, small-pox has been on the decline. Malaria has been almost wholly eradicated. The incidence of tuberculosis has been reduced by launching a mass B.C.G. vaccination programme.

Health Insurance Scheme

The Health Insurance Scheme, which provides *inter alia* medical benefits to industrial workers and their families, now covers over 20 lakh workers in the country. There are separate medical institutions for colliery and mica workers. Some other private enterprises as well as State Governments provide medical relief to their employees.

Production of Vaccines and Drugs

For many years past, India has been producing many kinds of vaccine. Factories recently established in the public sector produce antibiotics and DDT. Another big plant to produce modern drugs has recently been constructed in Uttar Pradesh with Soviet assistance. The Haffkine Institute at Bombay manufactures sulpha drugs. The Tatas and other private sector companies also produce many other drugs.

Medical Education

Facilities for medical education have considerably expanded in recent years. There are, at present, 87 medical colleges, 13 dental colleges and 11 other institutions for training in the allopathic system. Admission capacity in the medical institutions has increased from 3,660 in 1955 to 10,625 in 1965. Further expansion is planned in facilities for medical education.

Family planning is also receiving urgent attention. The aim of this programme is to reduce the birth rate in order to

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stabilise the population at a level consistent with the resources of the country. There are 12,000 family planning centres in the country. In addition to these regular whole-time centres, advice on family planning and supply of contraceptives were made available during 1965 through 9,971 medical institutions in rural and urban areas.

Labour Welfare

With the rapid progress of industrialisation, a well-defined labour policy has been evolved in line with the aim of establishing a socialistic system. Fair wages, improved working conditions, good labour-management relations, social and employment security, workers' education, rise in productivity—all these have been accepted as essential for securing not only a rapid and peaceful growth of industry, but also a fair deal for the working classes.

As yet, a relatively small proportion of India's labour force is engaged in industry—5 per cent or about 80 lakhs out of a total labour force of 16.5 crores. Half of this labour force is employed in small-scale industries.

Most industrial workers in India have had only elementary schooling. The Government is implementing a programme of education for workers carried out through a semi-autonomous board. There are 356 centres for training craftsmen. There are several schemes like that of National Apprenticeship Training for educating the workers. Under these education schemes, about 89,700 workers had been trained till the end of 1963. Six central training institutes for instructors have also been set up.

The index of real earnings of workers was 100 in 1947, 134 in 1957 and 136 in 1962. The Payment of Wages Act and the Minimum Wages Act govern the regulation of wages. In most of the scheduled employments, minimum wages have been enforced under the latter Act. Wage Boards are periodically set up for various industries to fix a wage struc-

ture on the principle of fair wages. Such Boards have so far been set up for the newspaper, textile, sugar, cement, jute, plantation, iron and steel and various mining industries. Bonus for coal-mine workers has been prescribed by statute. In the case of other industrial and commercial establishments, bonus is determined through negotiation or adjudication.

There is adequate machinery for conciliation and adjudication in industrial disputes. A code of discipline has been evolved with the approval of the employers, the workers and the Government. The employers and workers avoid breaches of the code by settling disputes through constitutional methods. A scheme for workers' participation in management is in operation in 107 undertakings. Efforts are being made to extend the scheme to more establishments.

The workers are organised in a large number of trade unions which are affiliated to either of the four all-India organisations. The membership of these organisations in 1963 was: Indian National Trade Union Congress, 12,68,339; All-India Trade Union Congress, 5,00,967; Hind Mazdoor Sabha, 3,29,931; and the United Trade Union Congress, 1,08,982.

Employment Exchanges, which are functioning all over the country, render assistance to employment-seekers. It has been made compulsory for employers usually employing 25 or more workers to notify their vacancies to the Exchanges.

There are two principal social security schemes for factory workers. One is the Employees' State Insurance Scheme which has already been mentioned. It provides for the medical care of the workers and their families. The other security scheme is the Employees' Provident Fund. Both the employees and the employers contribute to the Fund. It covers 103 industries and establishments and has about 44.03 lakh subscribers. A Death Relief Fund, ensuring a minimum assistance of Rs. 500 to the nominee or

heirs of the deceased has also been set up. There are separate provident fund schemes for coal-mine workers. Legislation concerning the payment of maternity benefits is in operation in almost all the States. Another Act provides for compensation to workmen in case of accidents, etc.

Provision for amenities, such as, canteens, creches, rest shelters, washing facilities and medical aid has been made in respect of many factories, mines and plantations. In addition, statutory funds have been created for financing welfare schemes in coal, mica and iron ore mines.

WELFARE OF BACKWARD CLASSES

Besides development programmes for the welfare of the nation as a whole, special provision has been made for ensuring the welfare and uplift of those groups which are backward or depressed or have special handicaps. The purpose is to bring them up to the level of prosperous and advanced classes.

Among these groups are India's tribal people who number about 3 crores. Another even larger group are the Harijans, meaning literally, God's people—a name given by Mahatma Gandhi to those who were once called the 'untouchables'. Most of them are landless agricultural labourers. Besides these 6.45 crore Harijans, there are other weak or backward classes for whom special safeguards and uplift schemes have been launched.

India's Constitution has itself prescribed many safeguards for these classes of people and various measures have been taken in accordance with the Constitutional provisions. The practice of untouchability has been abolished by an Act of 1955. The offences under this Act are congnizable and compoundable. Many voluntary organisations are also working for the eradication of untouchability and they are given financial assistance by the Government. Another safeguard

for the Harijans and tribals is the reservation of seats for them in the legislatures and public services.

The tribal regions of Assam enjoy a wide measure of autonomy and elected councils have been set up for administering them.

Tribes Advisory Councils have been formed in many other States. A special Commissioner has been appointed by the President to investigate into, and report to the President on the working of the safeguards provided for the Harijans and tribals. Two Central boards have also been set up to advise the Government of India on all matters relating to the welfare of these classes.

Measures have been taken to provide wider educational facilities to these classes, with particular emphasis on vocational and technical training. These include provision of free tuition, stipends, scholarships and free books, stationery and equipment. Scholarships are given to deserving students from these classes for higher studies in foreign countries. Seventeen and a half per cent of the merit scholarships granted by the Central Government are reserved for the backward classes. Reservation of seats, lowering of minimum qualifying marks and raising of the maximum age-limit for admission of members of these classes in all technical and educational institutions are some of the other concessions granted.

Steps for the economic advancement of the tribal people and Harijans have also been taken. Facilities for the purchase of livestock, fertilisers, agricultural implements, and for starting cattle and poultry farms are being extended to them. The Government is also developing cottage industries in the tribal areas. Co-operative societies to provide credit in cash and kind and to take up labour contracts have been formed for the benefit of the tribal people and Harijans. The Harijans are granted house-sites free or at nominal cost and financial assistance is given for building houses. A

scheme of free legal aid to Harijans is now in operation in many States.

SOCIAL WELFARE

Social welfare programmes, many of them carried out by voluntary organisations with the assistance of the Central and State Governments, have developed as an integral part of India's Five Year Plans. Included in these programmes are welfare projects for women and children in the rural areas. These were undertaken by the Central and State Social Welfare Boards.

The Central Social Welfare Board, a semi-autonomous body set up in August 1953, surveys the needs of social welfare organisations, evaluates their programmes and projects, co-ordinates the work of official and non-official agencies in this field and channelises financial assistance.

A scheme of rural welfare, known as Welfare Extension Projects, was sponsored directly by the Board in 1954. Each of these projects covers a group of about 25 to 30 villages and a population of about 20,000. The programmes and activities of these projects include *balwadis* (community creches and pre-basic schools), maternity and infant health services (including those for the handicapped and delinquent), literacy and social education for women, arts and crafts classes and recreational activities. These projects have recently been handed over to local organisations. Somewhat similar projects have been started in urban areas too. Among these, child welfare programmes have been given the highest priority. Provision has been made for setting up demonstration projects for integrated child welfare services, aiming at the all-round development of children up to the age of 16.

For persons suffering from physical or other handicaps, a small beginning has been made to help them get training, employment and some modest social security assistance. The

Government is also trying to end beggary in the country. There are institutions in the States for the custody and care of beggars. They also assist in their rehabilitation. Prevention of juvenile delinquency and suppression of immoral traffic have received priority among the "social defence" programmes. The Third Plan provided an outlay of Rs. 3.58 crores for these programmes.

CHAPTER XII

ARCHITECTURE

India is a great architectural treasure-house. Indian architecture falls into five periods—pre-Buddhist, Buddhist, Hindu, Muslim and Modern.

The earliest phase is seen in the remains of the ancient cities of the Indus Valley culture, datable between 2500 and 1700 B.C. From the excavations made at Mohenjo-daro* in Sind and Harappa in the Punjab, it is evident that the Indian cities at that early period were scientifically planned. There were broad roads, smaller lanes, shops, granaries and houses built of burnt brick with roofs of stamped clay. Practically every house had a bathroom, with adequate arrangements for drainage. Some houses were also provided with brick-lined wells.

Of the period between 1500 B.C. and the 6th century B.C., roughly covering the Vedic age, very little archaeological evidence has come down to us. But the Vedas speak also of fortified towns. The Vedic house was not an elaborate affair and the people lived mostly in thatched houses. The epics and Buddhist literature contain references to well-built cities and stately palaces. They probably followed the same pattern as the city of Pataliputra and the palace of the Mauryas. The architecture of Asoka's period (c.273—237 B.C.) gained in magnificence by the use, for the first time, of stone instead of wood. The great art of the period is represented mainly by the monolithic pillars on which Asoka's edicts were engraved. The famous capital of the Sarnath pillar consists of four lions and the Wheel of Law which have now been incorporated in India's State Seal.

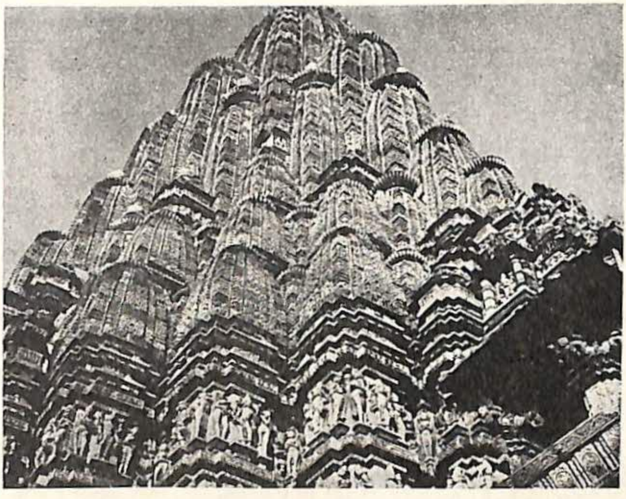
**A Sindhi word meaning 'the place of the dead'.*



The Great Stupa at Sanchi with one of its profusely carved stone gateways



The Lingaraja Temple at Bhubaneswar (Orissa)

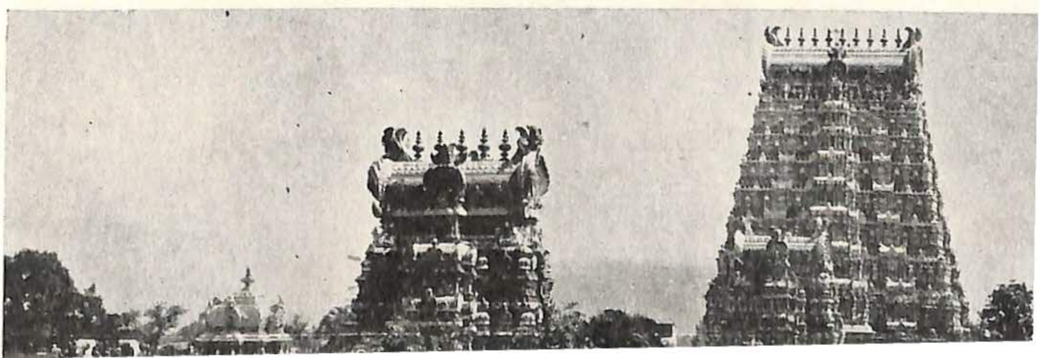


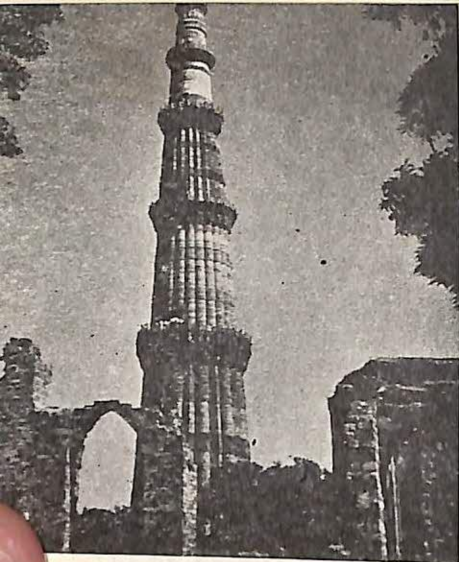
Dome of the Kandariya Mahadev Temple at Khajuraho. It is remarkable for the sculptures and carvings that occupy almost every inch of its surface.



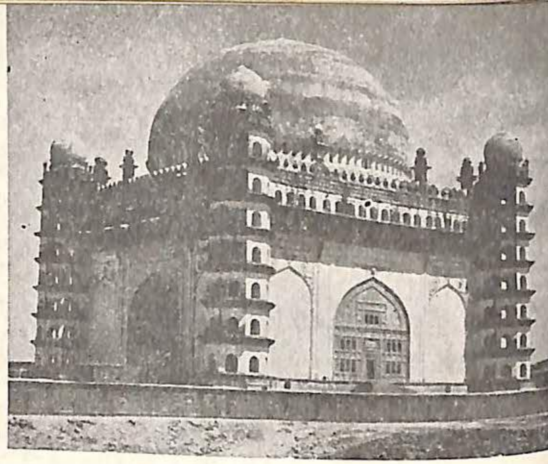
Interior of one of the Jain temples at Dilwara (Mount Abu), which are built entirely of white marble.

The Meenakshi Temple at Madurai (Madras)



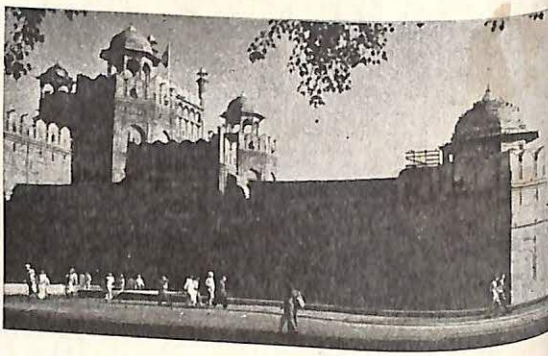


The famed Quth Minar at **Delhi**



Gol Gumbad, Bijapur. Its most striking feature is the enormous dome.

The Red Fort in Delhi. Built by Shahjehan, it is among the most graceful architectural creations of the Mughals.

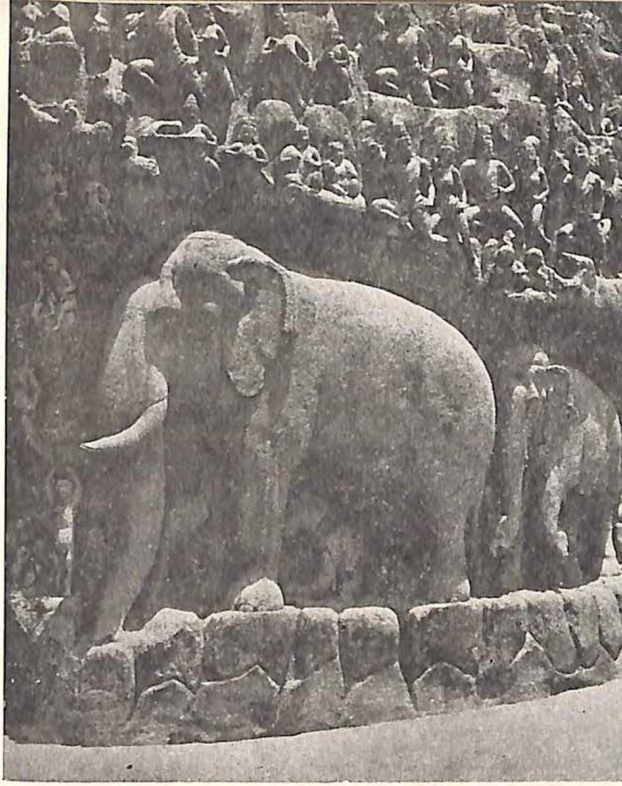




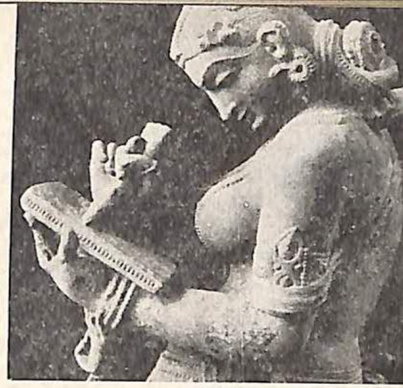
This graceful structure is known as the Panch Mahal. It is situated in Fatehpur Sikri, the deserted capital-city built by Akbar.

The most modern planned city in India is Chandigarh. Its architectural design was conceived by Le Corbusier, the famed French architect. This photo shows the Government Secretariat building.





A section of the beautiful sculpture known as "Arjuna's Penance" at Mahabalipuram



"Love Letter"—the famed 11th-century sculpture from Bhubaneswar



"The Drummer"—a dynamic study in stone from the Sun Temple, Konarak

"Triumph of Labour"—a modern sculpture by D. P. Roy Chowdhury



Bronze figurines of Vishnu and a goddess from Madras





Portrait of an apsara *(heavenly maiden)— one of the beautiful wall paintings in the Ajanta Caves*



Painting of mother and child from Jaipur (Rajput school)

Mughal painting (early 17th century) depicting Jahangir receiving a fakir *at Ajmer*



A Kangra Valley painting (early 19th century) depicting Radha and Krishna with cows and gopis



Between 200 B.C. and 200 A.D. architecture maintained its progress. It was the age of the 'Chaityas' and 'Stupas', the more famous of which are to be found at Bedsa, Karle, Bharhut and Sanchi. The stupas are memorial monuments in the shape of mounds built over the relics of holy personages, mainly the Buddha. 'Chaityas' were shrines. The chaitya at Karle, which can be dated to the first century B.C., is a magnificent example of cave architecture. The Sanchi stupas are of different dates. The core of Stupa No. 1 was probably built in the Mauryan age; the present stupa with the railings was built around 150 B.C., and the gateways were added still later. The reliefs on the great gateway at Sanchi are marvels of decorative story-telling. The principal themes are drawn from the life of the Buddha and from the *Jatakas*. Stupas 2 and 3 are of later origin.

Among the great monuments of southern India, of the same period, may be mentioned the stupa at Amravati.

The zenith of early architecture and sculpture was reached in the Gupta period (320-650 A.D.). The famous Mahabodhi Temple at Bodh Gaya, in spite of its restoration, still maintains its form of the early Gupta times. It consists of a high, straight-edged pyramidal tower of seven storeys. The more famous Ajanta caves also belong to this age.

After the Guptas, substantial contributions were made to architecture by the Chalukyas, Rashtrakutas, and Pallavas in the Deccan and the Palas in the east. The famous Buddhist university of Nalanda was at the height of fame in the seventh century. Examples of early Chalukyan architecture (550-746 A.D.) may be seen in the famous temples at Aihole, Pattadkal and Badami. Among the monuments raised by the Rashtrakutas, the pride of place belongs to the rock-cut Kailasa temple at Ellora. It is decorated with the finest sculptural composition known in India. To the same period may be dated the Saiva cave-shrine at Elephanta near Bombay, known for the outstanding Trimurti sculpture.

The Pallavas were a great power in the South between the 6th and 8th centuries A.D. Their most valuable legacy to us is the temple at Mahabalipuram. Another Pallava temple is the Kailasanatha temple at Kanchi.

The temples and monuments of the late mediaeval period (900 to 1300 A.D.) are too numerous to be described here. The beautiful temples at Khajuraho were erected between the 10th and 12th centuries A.D. In these temples, the effect of magnificence is created by a cluster of smaller towers built around a majestic principal tower. These temples belong to what is called the Nagara style, which developed new regional features in Rajasthan exemplified in the Jain temples at Mount Abu.

The Orissa temples (7th to 13th centuries) graphically illustrate the eastern regional features of the Nagara style. The great temple of Lingaraja at Bhubaneswar is imposing, with the effect of the height of the *sikhara* enhanced by the vertical lines of the strongly emphasised ribs. The beautiful temple of the Sun at Konarak is striking as much for its design as for its beautiful sculptures.

Temples of the late Chalukyan style, as also of the Hoysala style, are to be found in Mysore near Dharwar and at Belur, Halebid and Somnathpur. They have a star-shaped plan with a relatively low elevation, as opposed to the tall *gopurams* of temples farther south.

Outstanding examples of the Chola temple-building art are the Brihadeesvara temple at Tanjore (early 11th century), the temple at Gangaikondacholapuram (11th century) and the 'dance hall' at Chidambaram. The Vijayanagar temples represent a further evolution of this tradition.

Muslim Architecture

The establishment of Muslim rule towards the end of the 12th century in North India brought face to face two contrasting cultures whose synthesis introduced a new phase

in Indian architecture. The arcuate and other structural and decorative features of the Islamic architecture of Syria, Egypt, Persia and Central Asia were combined with indigenous traditions to produce a new style with strong individuality.

The origin and development of this new style can be seen in its various phases in the monuments of Delhi. The most outstanding building of the early Sultanate period is the Qutb Minar. This 234 feet high tower was originally intended to serve as the place for the call to prayers for the Quwwatul-Islam mosque nearby, but it has also been regarded by some as a tower of victory.

With the establishment of the provincial kingdoms in the east, west and south, and the intermingling of the regional idioms with the new style, a distinct architectural style developed in each region. In Deccan, the Bahamanis constructed numerous monuments, of which notable are the Jami mosque inside the fort and two groups of royal tombs at Gulbarga, the Chand Minar at Daulatabad and the tomb of Ahmad Shah and the College (*madrasa*) of Mahmud Gawan at Bidar. Among the Bijapur monuments, the Ibrahim-Rauza group and the Gol-Gumbaz are remarkable for engineering skill. The monuments of the Golconda kings are represented by the group of royal tombs and the fort at Golconda and the Char Minar at Hyderabad.

The most prolific among provincial styles was that of Gujarat where a large number of mosques and tombs were constructed.

The grandest treasures of the Islamic architecture, however, belong to the Mughal period. While Babur and Humayun, the first Mughal emperors, contributed little, Sher Shah, who succeeded the latter for a short period, was instrumental in infusing new life into the style of the Sayyid and Lodi kings, as may be seen from his tomb at Sasaram in Bihar and the Purana Qila mosque at Delhi. But the real

be seen at Ellora, Elephanta and Mahabalipuram. The Hindu pantheon is sculptured in relief on the walls of the caves at Ellora. At Elephanta, the figure of the Trimurti (three-faced God in the aspects of Creator, Preserver and Destroyer is an outstanding contribution. The rock carvings of Mahabalipuram have some of the most elegant and expressive sculptures.

In the mediaeval period, sculpture had largely become an adjunct of architecture. Gods and goddesses were carved with a number of heads to represent their super-human energy. The Pala art of eastern India has a rich variety of images in stone and metal. The temples of Bhubaneswar, Konarak, Khajuraho and Mount Abu are profusely carved with a variety of subjects, some dealing with erotic themes, but all of them revealing a dramatic intensity.

After the 12th century, temple-building was more or less restricted to the South. In the Deccan, the Hoysala and Kakatiya schools created temples with a wealth of decoration. The best examples of temple sculpture in South India belong to the times of the Cholas and Pandyas. The Cholas are remembered for the Tanjore and Gangaikonda-cholapuram temples and the Pandyas for the temple at Madurai to which important additions were made by the Nayaks. The famous South Indian bronzes which are outstanding examples of grace and power in art also belong to the Chola period. The temple sculptures as well as the bronzes reveal a close inter-relationship between the sculptor's craft and the art of dance. It is no wonder that Nataraja should be the most popular theme for the bronze-smith. Some of the outstanding temples of South India belong to the Vijayanagar period.

Since Islam forbids image worship or anthropomorphic representation, the period of Muslim rule was known for architecture rather than sculpture. But the old sculptural art persisted in the Hindu temples and homes. Traditional

sculptors and toy-makers (like the makers of clay images of Ganesa and Durga) continue to practise the art of their forefathers with few innovations.

Modern sculpture, like painting, has experienced a revival. While the general trend is towards social awareness and the simplification of form, there are some sculptors who have been content to follow the rhythmic, decorative tradition of the Gupta period. Others have been considerably influenced by European art. Concurrent with experimentation in these styles, the possibilities of new media like concrete and wood are being explored.

Mughal style began with Akbar. Humayun's tomb at Delhi is the first great monument of the Mughal style. But it is at Agra and Fatehpur Sikri that Akbar carried out his building activities on a large scale. The Buland Darwaza, Jami mosque, Jodha Bai's palace, Panch Mahal and Diwan-i-Khas at Fatehpur Sikri are some of the most beautiful examples of Indo-Muslim architecture. The subsequent reigns witnessed a further flowering of the style. Among the buildings of this period are the Red Fort and Jami Masjid at Delhi and the tomb of Itmad-ud-Daula and the Taj Mahal at Agra. The last monument is an architectural masterpiece.

MODERN PERIOD

The development of architecture in mediaeval India was governed by a number of factors : the existence of a rich architectural tradition, patronage of ruling dynasties and security of life and prosperity in the country. But, in the 18th and 19th centuries, conditions of life were not favourable to the growth of architecture, although the Marathas, some Rajput princes and the Nawabs of Oudh built some beautiful palaces and forts. With the accession to power of the English, the synthesising power that Indian architecture had shown declined. The East India Company encouraged buildings which copied the forms then in vogue in London. At the beginning of this century, in the wake of the Swadeshi movement, there arose a demand for national styles of architecture. The British rulers tried to orientalise the construction of some of the public buildings. This attempt can be seen in the Victoria Memorial in Calcutta and the General Post Office and the Prince of Wales Museum in Bombay. But revivalism could not expect a future.

The buildings of the new city of New Delhi, designed by Sir Edward Lutyens, are to be regarded more as an expression of the imperial theme than as the starting point of a new Indian School. The Rashtrapati Bhavan (formerly

called the Viceregal Lodge), the Secretariat buildings and Parliament House are the main examples of this architecture. The newer architects are adopting purely functional designs for dwelling houses, but are making an attempt to combine modern motifs with certain traditionally Indian elements in the construction of public buildings. The most novel experiment in architecture and town-planning in India and one whose fame has spread all over the world, is Chandigarh, the capital of the Punjab, which was designed by a team of architects led by the late French architect, Le Corbusier.

CHAPTER XIII

SCULPTURE

Apart from being a part of architecture, sculpture has existed as an art in its own right in India since the beginnings of history. Because of the prevalence of image worship, a good proportion of the sculpture has been religious in nature, but from the earliest times, secular sculpture is also to be found.

The remains of the pre-historic Indus Valley civilisation discovered at Mohenjo-daro and Harappa include a wide variety of figurines.

Coming to the historical period, the oldest Indian sculptures are the statues of *yakshas* and *yakshis* which are remarkable for their dynamic quality and show no trace of idealisation or introspection.

King Asoka had a number of pillars erected with edicts inscribed on them; on their capitals were sculptured animals such as, bull, elephant, lion and horse. The sculpture of the post-Asokan period consists mostly of bas-reliefs on railings and gates of stupas depicting incidents from the life of the Buddha and legends of his previous births. No image of the Buddha occurs in the earlier period, during which he is represented by symbols like the Bodhi tree, the Wheel of Law, a throne, an umbrella or his footprints. Fine examples of these are seen in the carvings at Sanchi and Bharhut.

If Iranian influence is seen in Asokan art, Hellenistic influence led to the evolution of what is called the Gandhara art. In the 2nd century A.D., the Kushan kings established their rule in northern India while the South was under the Andhras. The sculpture of the Kushan period was done in red sandstone, and a robust image of the Buddha was

carved at Mathura in the usual tradition of the large Mauryan figures. Mathura is also famous for the full-bosomed, slim-waisted nymphs and dryads carved on the stupa railings and pillars. The Jain religion also afforded much scope for sculptural representations depicting linear grace. Meanwhile, Andhra sculpture had found a remarkable expression at Amravati. The reliefs on the stupa and the railings are said to be the finest examples of sheer sculptural beauty and technical skill, revealing lissom figures with a striking suggestion of movement.

With the rise of the Gupta dynasty in the 4th century A.D. began a period which is generally described as the golden age of architecture and sculpture. The Gupta kingdom was politically integrated and, for the first time, one could truly speak of a national culture. The sculpture of this period is characterised by simplicity and refinement. The treatment of drapery is such that its lines aid the modelling of the figure. The best specimens of the Buddhist sculpture of this period are to be found at Sarnath and Mathura and in the caves of Ajanta and Bagh. The Buddha's face is set in tranquillity and "the eternal Buddha dreaming his eternal dreams" thus came into being.

During this period, the principles which created the Buddhist masterpieces were also applied to Brahmanical themes, and for the first time Brahmanical sculpture produced a whole pantheon of gods. Specimens of Brahmanical sculpture are to be found in Aihole, Badami and Udayagiri. A feeling of intense devotion pervades the sculpture in the Dasavatara temple of Deogarh and the sculptures of Aihole, Badami and Pattadkal.

In the 7th and 8th centuries, the images of Brahmanical gods and goddesses were imbued with amazing vitality and rhythmic movement. Though the modelling was done in simplified planes, the total effect suggested vigorous movement. The best specimens of the sculpture of this period can

CHAPTER XIV

PAINTING

Unlike the modern artist, the Indian artist of the past was content to remain anonymous and to work within a given framework of codes and regulations. Ancient Indian art has to be looked upon as the mode of expression of a multitude of talented draughtsmen whose art acquired meaning and unity only in relation to a functional society where every calling was ordained.

Because of the very nature of the medium, examples of early painting are less profuse than those of architecture and sculpture. Their quantity is large enough, fortunately, to say that the history of Indian painting is the story of India's civilisation in pictures.

Some of the earliest and most famous paintings are found at Ajanta, which is about 60 miles from Aurangabad. In the recesses of a hill-range resembling a horse-shoe, 26 caves and four *chaityas* (prayer-halls), which together formed a Buddhist monastery, were carved out and their walls and ceilings decorated profusely with paintings. The murals are largely based on the *jatakas* or stories depicting the life of the Buddha with incidents from his previous incarnations; these paintings in rich hues of blue, red and yellow were executed over a period of several centuries beginning with the 1st century B.C. Time and vandalism have told on their artistic wealth and only a few of the caves have been spared for posterity. The Ajanta artists worked out the melodic possibilities of line and skilfully modulated colours to impart a plastic suggestion to the murals. Their work gives a picture of an 'abundant, exquisite, sophisticated and brilliant life'. Ajanta has thus remained a perennial source of inspiration to all Indian artists.

Murals, in India, are by no means peculiar to Buddhist art and their technical excellence has survived their associations with the various religions.

In the Hindu cave-paintings of Ellora, which narrate the exploits of Siva and the incarnations of Vishnu, the Ajantan line had lost its flow and continuity and had become brittle and angular. By the beginning of the 9th century, the art of mural painting had lost much of its verve. Miniature painting came into vogue and the Pala School of Bengal flourished from the 9th to the 12th centuries. This school employed simple compositions to illustrate palm-leaf manuscripts of Buddhist scriptures.

Similarly, between the 11th and 15th centuries, the Gujarat school illustrated Jain scriptures with miniature paintings. In the early period, palm leaves were used, but by about the 13th century, paper had come into use.

By the middle of the 16th century, the mediaeval period in painting had come to a close and the Rajasthani miniatures made their appearance. In fact, the Gujarat school provided a link between the murals of the Gupta period and the miniatures of Rajasthan and the western Himalayas (Kangra valley).

In Rajasthani art, scenes from the *Ramayana* and the *Mahabharata* are brought to life in vivid colours. The most durable contribution of Rajasthani painting to Indian art is perhaps the *Ragamala*. The *ragamala*, literally meaning "garland of musical modes", seeks to render explicit the relevant moods which inspire particular *ragas* through line, form and colour.

While simplicity and lyricism mark the miniatures of the 16th century, the art of the following century is more sophisticated. Symbolism is used for the first time to illustrate the moods of love. Between the 17th and 19th centuries, the Pahari (hill) school of painting flourished in the remote valleys (Kangra area) of the western Himalayas. The

life of Lord Krishna and his amours with the milkmaids, as well as dance and music, are the themes of these Pahari miniatures. The Kangra school is noted for its soft colours and melodious lines. The feminine figures are drawn with great delicacy.

Mughal Painting

The Mughal school of painting was influenced by Persian traditions during the first half of the 16th century. It was essentially a secular art created for the amusement of the emperors and the nobility. Portraits, pictures, colourful ceremonies at court, hunting and battle scenes and studies of birds and flowers form the bulk of Mughal paintings. Religion, legend and the life of the people did not interest the nobility, who attached greater importance to technical excellence and craftsmanship.

Mughal art was highly individualistic and the artist did not conceal his identity. The element of formalism, however, persists through the later Mughal paintings. Mughal art finally outgrew its initial stimulus. While it indisputably bore the impress of Persian influence, it became Indianised eventually.

Modern Period

With the dawn of the twentieth century, the impact of European culture led to the formation of art schools under European guidance in Calcutta and some provincial towns. Among the artists of this period, Raja Ravi Varma alone reached a standard of technical adequacy. His mythological paintings achieved great popularity.

It was the insistence by Abanindranath Tagore and Havell on the traditions of Ajanta and Rajasthan that weaned Indian students from indiscriminate imitation of Western art. Havell, head of the Calcutta School of Art, was one of the pioneers of the movement which sought to go back to the wisdom of the past for inspiration. Many Indian artists turned to

the *Ramayana*, the *Mahabharata*, to Kalidasa and contemporary life for their themes. They were also very much influenced by the Japanese and Chinese schools of paintings. Nandalal Bose recreated the atmosphere of Ajanta.

Gaganendranath Tagore, Rabindranath Tagore, Jamini Roy and Amrita Sher-Gil were the pioneers of modern Indian art. Rabindranath was a creative writer and did not have to fall back on myth and legend. Technically more competent, Gaganendranath had been influenced by contemporary society and its problems and ridiculed social foibles in fluently drawn black and white sketches. For a time, he experimented with cubism and developed the pictorial possibilities of light. He served to infuse confidence in younger artists who wanted to experiment with new modes of expression.

Dissatisfied with his early attempts executed in the styles of the West, Jamini Roy modelled his work on folk art and turned to the *pat*, the scroll and the motifs of decoration on village pottery for form. He found the technique of the revivalists overburdened with obscure allusions.

A spirit of intense devotion pervades the work of Amrita Sher-Gil. She also pleaded for a return to the spirit of Ajanta, but not so much for subject-matter or form. She proved that an artist who chooses a secular theme can convey earnestness and dedication as much as another who relies on religious subjects.

Contemporary Indian art is more difficult to evaluate because of its heterogeneous tendencies. It is influenced by contemporary experiments and trends all over the world.

LALIT KALA AKADEMI

During 1953 and 1954, three academies were set up for the promotion of art and culture. Among them, the Lalit Kala Akademi (National Academy of Arts), inaugurated in August 1954, promotes study and research in painting,

sculpture, architecture and other applied arts. It aims at promoting co-operation among art associations, encouraging the exchange of ideas between various schools of art and co-ordinating the activities of regional or State academies. The Akademi publishes literature and fosters inter-regional and international contacts through exhibitions, exchange of personnel and of art objects.

The Akademi holds a National Exhibition of Art every year at New Delhi, which also visits different State capitals by rotation. Exhibitions of the arts and crafts of Eastern and Western countries in India and of Indian arts and crafts abroad are also organised by the Akademi. Seminars devoted to various aspects of art are also held periodically. The Akademi makes annual awards to outstanding artists participating in the National Exhibition of Art.

Publications

The Akademi has brought out a number of art publications. It also brings out two bi-annual art journals—*Lalit Kala* (*Ancient*) and *Lalit Kala* (*Contemporary*).

Among the art publications brought out by the Akademi are *Moghul Miniatures*, *Portfolio of Contemporary Paintings*, *Kishangarh Paintings*, *Birbhum Terracottas*, *Bundi Paintings*, *Paintings of the Sultans and Emperors in American Collections*, *Miniature Paintings of the Khazanchi Collection*.

The Publications Division of the Ministry of Information and Broadcasting has also brought out a number of important art publications. These include *Indian Art Through the Ages*, *Architecture and Sculpture of India*, *The Way of the Buddha*, *Kangra Valley Paintings*, *Basohli Paintings*, *Heritage of Indian Art* and *Contemporary Indian Paintings*.

The National Gallery of Modern Art, established in 1954, possesses more than 3,000 art objects representing trends in art for the last hundred years.

CHAPTER XV

LANGUAGE AND LITERATURE

The Indian Constitution recognises fourteen languages. Hindi has been declared the official language of the Union, but English continues in use for official purposes.

The modern Indian languages are classified under two heads : Indo-Aryan and Dravidian. The Aryan languages are descended from the ancient speech of the Aryan settlers who came to India from their original homeland in the plains of Europe and Central Asia. The oldest form of Aryan speech is to be found in the *Vedas,* the four sacred books of the Hindus, which are believed to have been compiled about the 10th century B.C. Vedic Sanskrit gradually evolved into what are known as the middle Indo-Aryan dialects. During the period of Aryan expansion, these dialects gradually spread over northern India. The early literature of Buddhism is enshrined in Pali. By the 10th century A.D., the middle Indo-Aryan dialects gradually developed into the modern Indo-Aryan languages.

Of them, Hindi is spoken by the largest number of people. It is generally understood by those who speak other Aryan languages, such as, Punjabi, Bengali, Assamese, Oriya, Marathi, Gujarati and Nepali. These languages are written in the Devanagari script or its variants. It is a phonetic script and the Devanagari alphabet consists of 52 characters.

Delhi has been the centre of Urdu. It is commonly believed that Urdu had taken its birth in the camp of Muslim emperors. As its name indicates—Urdu means an army. The essential part of the language had, however, been in existence in the country for centuries before. It

saints, who were the pioneers of the *bhakti* movement, came a little later. Kamban's *Ramayana* was written in the 12th century.

A great number of Jain authors dominated the Tamil as well as the Kannada literary scene. The great poetic trinity of Kannada literature, Pampa, Ranna and Ponna, flourished in the 10th century A.D. Kannada literature (like Tamil and Telugu literatures) was greatly enriched by poets following the Veerasaiva faith, a religious reform movement launched by Basaveswara (12th century). Other great names in classical Kannada literature are Kumaravyasa, Lakshmisa and Sarvajna.

The first outstanding work of Telugu literature is the *Mahabharata* of Nannaya (early 11th century). Somanatha and Nannechoda were leading Veerasaiva poets. Tikkana (13th century), who resumed work on Nannaya's unfinished *Mahabharata*, ranks with Nannaya among the greatest Telugu poets. The great age of Telugu was under the Rayas of Vijayanagar in whose courts lived Srinatha (1365-1440). His brother-in-law, Potana, is known for his *Bhagavata*. The Emperor Krishnadeva Raya was himself no mean literary artist. Vemana and Timmana were other Telugu poets of note.

In malayalam, which is the youngest of the Dravidian literatures, *Unnunili Sandesam* of the 14th century is the earliest extant work, though there were many earlier ballads. Punam Nambudiri, Rama Panikar and Cherusseri Nambudiri were other early masters. The outstanding figure of Malayalam literature, Ezhutachan, who gave modern Malayalam its shape, belonged to the 16th—17th centuries. He rendered both the epics in the 'kilipattu' style.

The renaissance in these four languages, which took place in the late 19th and early 20th centuries, had as symbol-figures Subramanya Bharati (d. 1924) in Tamil, Veeresa-

lingam Pantulu (d. 1919) in Telugu, B.M. Srikantiah (d. 1944) in Kannada and Vallathol (d. 1957) in Malayalam.

GROWTH OF HINDI

The writings of the 'siddhas' and the epics and ballads describing the exploits of the Rajput kings constitute the beginnings of Hindi literature. The great work *Prithvi Raj Raso,* written by Chand Bardai, is the first great landmark. It was followed by the works of the *bhakti* movement. The saint-poets Kabir, Mirabai, Surdas, Ramanand, Nanak and Tulsidas were all outstanding literary figures. Tulsidas re-wrote the *Ramayana* (c. 1575) in the old Avadhi form of eastern Hindi. He is called 'the tallest tree in the magic garden of mediaeval Hindi poetry'. Mirabai sang the praise of God in ecstatic terms and her lyrics have moved millions of hearts. Some of the best lyric poetry in Hindi was written between the 17th and 19th centuries, but towards the end there was a decline in its quality. With the advent of printing and English education, Hindi received a fillip and its prose developed rapidly. Bharatendu Harishchandra was the father of modern Hindi prose or Khari Boli. Some other pioneers of the new Hindi are Hariaudh, Mahabir Prasad Dwivedi, Maithilisharan Gupta, Prem Chand and Jayashankar Prasad.

Bengali : The first great poet of the eastern region was Jayadeva, who wrote *Geet Govind* in Sanskrit in the 12th century. It marked the beginning of the Vaishnava lyric poetry of Bengal of which there was a luxuriant growth in later times. He was followed by Chandidas and Vidyapati, both great poets of Radha-Krishna lyrics. *Chaitanya-Charitamrita,* a biography of Chaitanya, a great Vaishnava religious reformer, by Krishnadasa Kaviraj is an outstanding work in Bengali verse. The most famous *Ramayana* in Bengali is by Krittivas; seldom has any mediaeval or modern text enjoyed such wide popularity with all classes of the

evolved as a result of the interaction of Persian and Arabic and the local speech forms. It is written in Persian characters. It became current in north-western and upper Gangetic India and later in the Deccan.

The Dravidian languages, Tamil, Telugu, Kannada and Malayalam, are spoken by about 20 per cent of the people, and have their home in peninsular India. Tamil, the oldest member of the group, preserves a good deal of the general character and vocabulary of the ancient Dravidian speech. Telugu is spoken by about 3.5 crore people and is next only to Hindi. The scripts of all these languages are derived, like Devanagari, from the earlier Brahmi script. Telugu and Kannada scripts, closely allied, have a 52-letter alphabet. The basic Tamil alphabet has 36 letters, while Malayalam has 53 letters.

Literature

All aspects of Indian culture show the development and persistence side by side of two traditions—the Sanskrit tradition and the regional traditions. Indian literature reveals this feature to a greater degree than other forms of art. Sanskrit-derived literary forms, values and critical canons have throughout held the field. At the same time, the folk forms have been practised and pursued with vigour.

As in most civilisations, literary creation preceded the art of writing. The *Vedas*—to which reference has already been made—were transmitted orally for many generations before they were written down. The four *Vedas* including the 'Aranyakas' and 'Upanishads'. The codes of Manu and other law-givers are together called *Shrutis* and *Smritis*. The epics and the 'Puranas' are designated as *Itihasa*.

The two great epics, Valmiki's *Ramayana* and Vyasa's *Mahabharata* and the prime 'Purana' the *Bhagvata* (dealing with the life of Krishna) have dominated the Indian literacy scene to this day, not only in Sanskrit but in all the langu-

ages. But already, by the Buddha's time, Sanskrit had become the classical language and the preserve of the learned, as opposed to Pali and Prakrit, the tongues of the people. The Buddha and Mahavira (propagator of the Jain faith) spoke and taught through the language of the people. The *Tripitakas* and *Jatakas* of Buddhism are all in Pali. But Sanskrit staged a come-back as the vehicle of literary creation, and later Buddhist philosophers and authors like Nagarjuna and Asvaghosha employed Sanskrit.

Some great names in Sanskrit literature (besides Asvaghosha) are Bhasa, Kalidasa, Bhavabhuti, Bharavi, Harsha, Bana and Dandi. The most celebrated of them all is Kalidasa, whose plays *Sakuntala, Vikramorvasi, Malavikagnimitra* and poems *Ritusamhara, Raghuvamsa, Meghaduta* and *Kumarasambhava* have come down to us. His date has been placed between 57 B.C. and the fifth century A.D.

Critics, rhetoricians and grammarians commanded equal respect. The great grammarians were Panini and Patanjali. Among the more influential critics have been Bharata, Vamana, Bhamaha, Dandi, Rudraka, Anandavardhana, Mammata, Visvanatha and Jagannatha.

The great age of creativity in Sanskrit must be said to have waned by the tenth century, although a large volume of rule-bound and correct, but sterile, work has been turned out since.

The decline of creative work coincided with the rise of literary activity in the mother-tongues. Tamil, down south, has an ancient literature. There are references to Tamil works pre-dating the Christian era, but few books that are independent of the Sanskrit influence are extant. The earliest available Tamil works belong to the Sangam age (1st to 4th centuries A.D.). The celebrated *Silappadikaram* gives a vivid picture of life in those days. *Tirukkural*, regarded as the Tamil Veda, is of the fifth century A.D. The Nayanars and Alwars, and the Saiva and Vaishnava

people in Bengal. Narrative tales of heroism and devotion and romantic ballads occupied a prominent place in Bengal. Bankim Chandra Chatterji, Ishwarchandra Vidyasagar and Michael Madhusudan Dutt were the leading figures of the Bengali renaissance in the 19th century. They were followed by Rabindranath Tagore, who was awarded the Nobel Prize for Literature in 1913, and Sarat Chandra Chatterjee, the novelist. It is mostly to Tagore that modern Bengali is indebted. Bengali has considerably influenced the literature in other Indian languages.

Assamese : It has a devotional literature of rare quality in the writings of Sankaradeva and other writers of the 15th and 16th centuries. A striking feature of Assamese literature is the series of prose chronicles known as *buranjis*. These were compiled under the orders of kings and of the high dignitaries of the State, for they alone could grant access to State documents on which the chronicles had invariably to be based. These *buranjis* seem to have helped the emergence of the modern Assamese prose.

Marathi : Jnaneswar (also spelled Dnyaneswar), who lived around 1290 A.D., was the first great master of Marathi literature. *Bhavartha Deepika*, his commentary on the *Bhagvad Gita*, has been read very widely and with profound devotion. He was followed by a succession of saint-poets and reformers, of whom the most popular were Namdev (c. 1425), Eknath, Tukaram and Ramdas (early 16th century). The ballads or *powadas* of Maharashtra narrate episodes from Maratha history. The foundations of modern Marathi prose were laid by Chiplunkar, Agarkar, Ranade and Tilak. Hari Narain Apte developed a new awareness through the novel.

Gujarati : The earliest of the Gujarati poets was the saint Narsimha Mehta (15th century), whose song *Vaishnava Jana To* was Mahatma Gandhi's favourite. Mirabai belonged as much to Gujarati as to Hindi. Another famous poet

was Akho. Narmadashankar (1833-1886) and Govardhanram (1855-1907) were the pioneers of modern Gujarati, and easily the greatest master of Gujarati prose was Mahatma Gandhi. Some of his associates like Kaka Kalelkar and Kishorlal Mashruwala have contributed remarkably to the development of Gujarati literature.

Oriya : The Oriya language assumed individuality in the fourteenth century mainly through the *Mahabharata* of the peasant-poet Sarala Das. As in the other languages, literary creation crystallised around the epics. Fakir Mohan Senapati (1843-1918) has been called the 'general of modern Oriya literature'.

Punjabi : The greatest work of the Punjabi language is the *Granth*. Guru Nanak and most of the Sikh Gurus were eminent literary men. The Gurumukhi script was devised by the first Guru. Waris Shah's epic *Heer Ranjha* and the *kafis* of Bulhay Shah (1680-1758) are outstanding examples of romantic and mystic poetry. Vir Singh (d. 1957) could be said to have led the rebirth of the language.

Urdu : Urdu owes its development to the saints and mystics who made it a vehicle for the propagation of their ideas of unity and compromise. Urdu flourished notably around Delhi but also in the Deccan. The King of Golconda, Mohammed Quli Qutb Shah (1580-1611), was a talented poet from the South. Wali, belonging to the Mughal period, was the greatest of the southern Urdu poets. Ghalib was one of the foremost poets of the mid-nineteenth century. The best Urdu prose in post-Mughal days was written by the so-called "Fort William" writers. Towards the end of the 19th century, Ratan Nath Sarshar wrote his famous novel *Fasana-i-Azad*. While Hali and Mohammad Hussain Azad were the first of the moderns, Iqbal was undoubtedly the greatest among them and is very widely read.

Among the novelists and fiction writers, Prem Chand,

who used the language of the common man, is held in very high esteem.

INSTITUTIONS

Political upheavals destroyed the great libraries of ancient and mediaeval India, but the rise of the Orientalists among the British helped the founding of modern libraries. The major universities and the Asiatic Societies of Bombay and Calcutta have large libraries, but the largest collection of books is in the National Library, Calcutta. Under an Act of Parliament, copies of all publications in India have to be sent to the four central libraries.

A National Academy of Letters, the Sahitya Akademi was established by the Government of India in 1954. It is an autonomous body whose aims are to foster and co-ordinate literary activity in the Indian languages.

Apart from private publishers and the learned societies, governmental organisations also publish popular as well as technical books. The Sahitya Akademi's publications aim at supplying the best of each language to people speaking the others. The National Book Trust, established in 1957, encourages the production of good literature and makes such works available at moderate prices to libraries, educational institutions and the public. About 100 such publications have so far been released.

CHAPTER XVI

MUSIC

The music of India shows the persistence of traditional patterns much more than literature, architecture, painting and other art forms. Though recent popular music has been influenced by western musical trends, classical music has remained truly Indian and is finding a steadily widening following.

Indian music is based on melody. It is built on the *raga* and *tala* concepts. In spirit it is individualistic, and the content of the phrases, in the past, was largely devotional.

The octave in Indian music consists of 22 acceptable tones and microtones. The *raga*, which has been described as "mood" or "a melody mould" and which literally means "that which pleases", consists simply in the employing of only a few of these notes in a given sequence, and the deliberate eschewing of the rest. Indian musical theory credits individual notes and their combinations with special aesthetic values. As a result, each *raga*, being a unique assembly of only certain notes, is regarded as appropriate to a certain emotion, a certain mood and even a certain time of the day or night. In fact, as mentioned earlier, this *raga* symbolism has been so widely accepted that many painters have painted their own interpretations of a *raga* visualised in colour. These paintings are called *ragmala* paintings.

There are two major systems of classical music: the Hindustani system and the Karnatak system. The differences between them are more in practice than in their theoretical foundation, as both derive their rules from the same treatises, of which the most famous are Bharata's *Natya Shastra* and Sarangadeva's *Sangeet Ratnakar*. Both systems have shown

great assimilative power, constantly absorbing folk tunes and regional lilts and elevating many of them to the status of *ragas*. They have also mutually influenced each other. The Hindustani system, prevalent over the whole of North and East India and the upper half of the Deccan, has been more exposed to Persian influence.

There are believed to be about 250 *ragas* in common use in the north as well as in the south. The more important forms of musical composition are : in the north, the Dhrupad (or Dhruvapad), the Dhamar, the Khayal, the Thumri, the Tappa, the Dadra and the Ghazal; and in the south, the Varnam, the Kriti, the Ragmalika, the Javali, the Padam and the Slokam. The singer has the freedom to elaborate the nature of a *raga* and take his own time to stress the core of a mood and delineate the subtleties. After this *alap* or *alapana*, he takes up the song proper with its words. He can, if he chooses, linger on certain words by employing musical phrases or what are called *Swaras* (the equivalent of the Solfas). He thus has freedom of time, and a song is never sung exactly the same way again. Improvisation, which is supposed to convey in one word the essence of Indian music, can be understood when it is realised that the singer or player is using the "song" as just an occasion to interpret the *raga* or a phase of a *raga*, as he conceives it, or acting as the composer's commentator and partner.

Tala is the cyclic rhythm of the song. It is explicitly stated and demonstrated throughout on the drum. The *talas* could be simple or highly complex. While the singer elaborates the phrases of a song, the drummer meanwhile weaves variations of the given cyclic rhythm.

INSTRUMENTS

The vocalist is usually accompanied by a sarangi player in the north and a violinist in the south and both invariably by a drummer. There are various kinds of Indian percussion



Jamini Roy's painting of the Madonna with St. John



"The Story-teller"—a painting by Amrita Sher-Gil

"Lord of Land"—depiction of a peasant with his ploughs and pair of bulls by K. K. Hebbar





Painting by Nandalal Bose depicting Mahatma Gandhi's famous Dandi march

"Gossip"—a painting by M.F. Hussain





Shrimati M. S. Subbulakshmi, the noted musician of South India, giving a recital of South Indian vocal music in the National Programme of All India Radio



Pandit Onkar Nath Thakur, the great vocalist and exponent of the North Indian style of Indian music, giving a recital



Right :
A Kathak dancer in a characteristic pose depicting the festival of Holi

Left :
Scene from a play by Rabindranath Tagore on the life of the Buddha



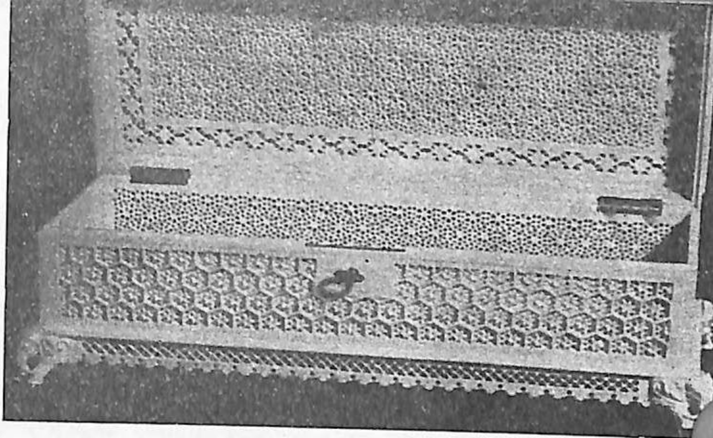
Scene from the Kathakali dance-drama

Sequence from the graceful Manipuri dance depicting Lord Krishna with Radha and the gopis



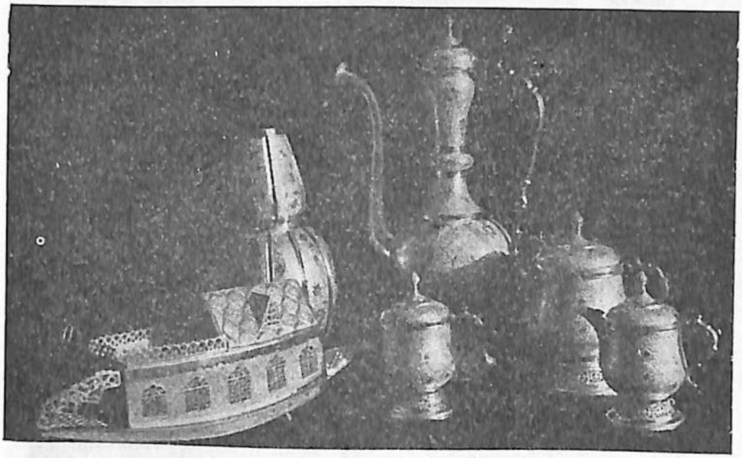






A colourful wooden toy from Kondapalli

An ivory box of exquisite craftsmanship

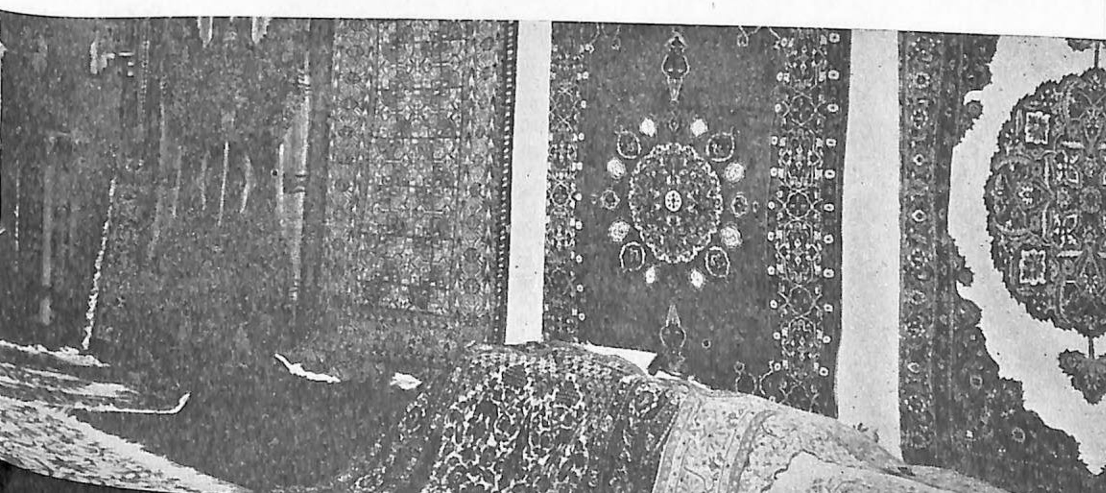




Some specimens of the finely worked silver-ware of Kashmir

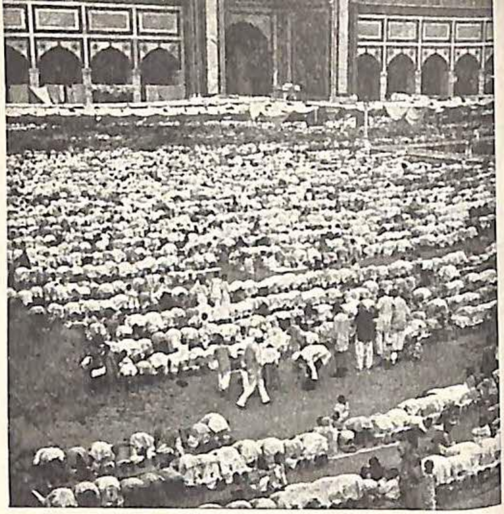
Terracotta horse made by a village artisan

Colourful Kashmir carpets of variegated patterns on display in an emporium



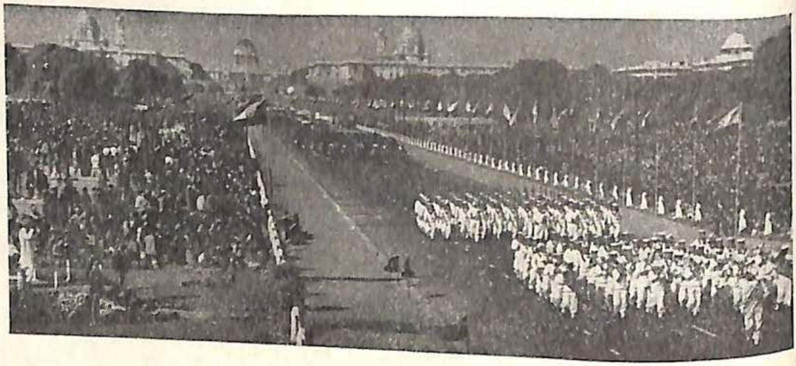


Blazing arrows from Rama's bow set afire the towering effigies of Ravana, his brother and son (symbolising evil) on Dussehra night.



Attired in new clothes, the faithful kneel in prayer on the day of the Id festival at Delhi's Jama Masjid.

Republic Day pageant in New Delhi. Armed forces contingents marching past as the President takes the salute.



Holi frolic in an Indian home. The women are busy squirting each other with coloured water.



instruments, of which the tabla, the mridangam, the pakhawaj, the chandai and the dholak are the more common.

The most famous Indian instrument, however, is the veena, which is celebrated in the epics and other ancient books. It has been described as the companion of Saraswati, the Goddess of Learning. It consists of a fret-board mounted on two large gourds and seven strings. The instrument is played by a deflection of the strings which are played by the right hand and the notes made with the left. Among other string instruments are the sitar, with its feminine grace, believed to have been devised by the poet Amir Khusro in the 14th century, the sarod (played with a *mizrab* or plectrum) with its deep and vibrant notes, and the gottuvatyam of the South. The sarangi has already been referred to. It is played with a bow. The South has widely adopted the European violin, although it is believed that the bow had travelled from India to the West. The tanpura, a string instrument, is used by the vocalist as a constant drone to determine his *shruti* or reference pitch.

The flute is the most common wind instrument, inseparably associated with Lord Krishna. The nagaswaram in the South and the shahnai in the North are played on auspicious occasions like marriages and festivals. The nagaswaram is indispensable for temple processions in South India. A great variety of horns and bugles are in use in folk and tribal music, while brass instruments of the Western type are in vogue only in military and police bands.

The more famous composers in the North Indian system have been Amir Khusro, Swami Haridas, Tansen (who adorned Akbar's court), Baiju Bawra, Sadarang, Adarang and Mohammed Shah Rangeele. The southern composers of fame include Purandardasa, Thyagaraja, Muthuswami Dikshitar, Shyama Shastri, Swati Thirunal, Annamacharya and Kshetrajna.

While musical history and the evidence of architecture

in India contain references to instrumental ensembles, the idea of the orchestra as understood in the West is not an integral part of Indian music. Remarkable effects have been achieved by using instruments in unison or severally inside an ensemble and within the *raga* structure. Thematic music in which words are eschewed and descriptive, narrative and dramatic subjects conveyed through sound alone is still a new field. Valuable orchestral experiments have been made by All India Radio, whose Vadya Vrinda in Delhi can be described as our first national orchestra.

Music flourished in the temples and palaces. With the exit of kings and courts, the general poeple have to be the new patrons. The Union and State Governments have stepped in to foster music and to spread music consciousness. An academy of music, dance and drama—the Sangeet Natak Akademi—has been established. Eminent musicians are honoured every year by the President, on the Akademis recommendation. The radio has been affording opportunities for a large number of musicians. Indian music gives a special place to the discriminating listener; in fact Western observers have been struck by the audience responsiveness in Indian concerts. Music societies are growing up in all towns and villages. It is a happy portent that more and more young people are taking to the study of classical music as an essential part of education.

CHAPTER XVII

DANCE AND DRAMA

Few countries can rival India in variety, colour and the emotional richness of dance forms. The country abounds in tribal dances, folk dances and classical dances of great antiquity and virtuosity. Indian dance has influenced the art forms of many neighbouring countries, such as Ceylon, Indonesia (particularly Bali and Sumatra), Thailand and even Japan. Inside India, dance is not regarded as merely an adjunct to social intercourse. It is much more than even a mode of aesthetic expression; it is considered to be a method of spiritual realisation. The great symbol of dance is Siva, the cosmic dancer, depicted in sculpture and poetry as Nataraja.

CLASSICAL DANCE

Dance everywhere in many arts in one, combining in itself action, song, mime and rhythm. It is especially so in India where aesthetic theory has held dance, music and drama to be almost inseparable. All three are based on the principles first elaborated in the *Natya Shastra* of Bharata. There are four major systems of classical dance in India—the Bharata Natyam, the Kathakali, the Kathak and the Manipuri. Some of the other schools are Kuchipudi of Andhra, Odissi of Orissa and Mohini Attam of Kerala. Yakshagana of Karnatak is a form of folk dance-drama.

The classical systems have many features in common. All of them, like Indian music, are dominated by the *tala* concept. The dancing foot is aided by hand gestures (called *mudras*) and by appropriate facial expressions. In Bharata Natyam and particularly in Kathakali, a very elaborate

gesture language is employed so that any traditional human situation can be expressed through *mudras.*

Bharata Natyam

Bharata Natyam is the most important of the classical dances because of its religious associations, its intricate technique and its elaborate style. Its home is Tanjore and it is essentially a temple dance, originally performed by *devadasis* (dancing girls of the temple) as one of the rites of worship. It was also performed in the princely courts and at social gatherings. With the decline of the institution of *devadasis,* Bharata Natyam also waned. Happily, however, there has been a revival of this style in recent times.

Bhava, Raga and *Tala,* or emotion, melody and rhythm, are the three elements embodied in this classical dance. A Bharata Natyam recital normally includes various types of choreographic compositions, some of which are : *Alarippu, Varnam, Jathiswaram, Tillana* and *Padam.* All these are combinations, in varying proportions, of *nrtta* or pure dance and *abhinaya* or acting.

Kathakali

Kathakali is essentially a dance in pantomime and may be regarded as the counterpart of the ballet in the West. Acting plays as much a part in it as pure dancing. It is generally performed in the open and usually lasts the whole night. The themes chosen are legends from Hindu mythology with superhuman characters. Elaborate make-up and great skill and ingenuity in the use of colours produce an otherworldly effect. The costumes again show a profusion of variety and colour, while the orchestra is a simple one, consisting of drums, cymbals and a couple of singers. These singers supply the lines and the dancer the interpretation. Of scenic arrangements there are almost none, for the actor is expected to create the necessary effects by his skill in suggestion. The

earth and the sky form the stage against which Kathakali is performed.

Kathak

The traditional Kathak dance had its origin in the devotional dances of Rajasthan and Uttar Pradesh. It was originally part of worship in the temples. With the Muslim ascendancy in North India, it suffered eclipse for some time, till it was revived by the Mughal rulers in an amended form. The Mughal court, with its love of ease and pleasure, left its mark upon Kathak which now severed its association with the temple and became a secular art. The skill of the dancer is displayed in fast and intricate foot movements with a complicated time measure.

A Kathak performance consists of *Vandana* (invocation), *Amad* (commencement of the dance and introduction of rhythmic syllables), *Paranas* (intricate rhythmic patterns) and *Tatkar* (footwork). The subject-matter is drawn from episodes in the life of Krishna.

Manipuri

Manipuri, native to eastern India, is the dance of nature-lovers. It celebrates the diverse moods of nature—the changing seasons, the vernal breeze, the winter's haze, the warmth-giving sun and the monsoon. It originated as a folk art, but in the course of the centuries, it has developed a highly complicated technique.

The Manipuris have a variety of dances in which both men and women take part. Their well-known classical dance, however, is *Raas,* in which only women participate. *Raas* combines acting, singing and dancing. The stories of Krishna's amorous sport with Radha and the *gopis* (milkmaids) from the theme of the dance. The music is provided mainly by an instrument known as 'pung' : Gentle swinging movements and quick rhythmic steps distinguish this style of dancing.

NEW DEVELOPMENTS

The emergence of a form of ballet is the latest development in Indian dance. On the basis of a study of indigenous dances and folk arts like the shadow-play, new ballets have been composed. Uday Shankar's *Rhythm of Life* and the *Buddha,* and the Little Ballet's *Panchatantra* are its examples. The Kalakshetra at Adyar has staged some of the operas composed by Thyagaraja. The Indian ballet has brought about a synthesis of the lyricism, grace and pictorial quality of Indian dance forms, both classical and folk, and the most modern stage techniques. They have been greatly appreciated at home and abroad.

FOLK AND TRIBAL DANCES

It has been aptly said that from Kashmir to Cape Comorin and from Saurashtra to Manipur, rural life in India 'throbs with a natural gaiety which expresses itself in popular dances'. There are harvest dances, festival dances, dances to propitiate the gods, dances to pray for rains, dances to lighten toil in the field and at home, dances for men and dances for women. The festivals of Dussehra, Divali, Holi, and Sankarnti are special occasions for expression of the villagers' love of rhythm.

Each region has its special dances. To name a few, Rajasthan has its Ghumar, Gujarat its Garba, Punjab its Bhangra and Giddha, Tamil Nad and Karnatak their stick dance called Kolatam.

Assam, Bihar, Orissa and Madhya Pradesh abound in a variety of tribal dances. To most tribal people, dance is a ritual. The Naga dances of Assam are known for their picturesqueness of costume and ornament. The masked Chhow dances of the Santhals of Bihar and Orissa, the Karma dances of the Gonds, and the dances of the Banjaras and the Lambadis are some of the more well-known tribal dances.

The Classical Theatre

Apart from the professional and literary theatre, India is very rich in folk forms of drama. Open-air plays can be seen everywhere in India, almost the year round. Each region has its own special offering. Bengal has its Jatra, Uttar Pradesh its Nautanki, Maharashtra its Tamasha, Andhra Pradesh its Veedhi Natakam, Mysore its Bayalata and Kerala its Ottam Tullal. There are, in addition, many types of puppet plays, masked pantomime and shadow plays.

The literary theatre has a tradition of more than two thousand years. Performed in temples and palaces, the classical plays combined acting, music and dance. The ancient plays were limited by certain conventions. One of them was that tragedy was taboo, although one of the early Indian playwrights, Bhasa, had shown death on the stage. The choice of themes covered a wide range. Great variety was also to be seen in the treatment. Skits, farces, sparkling comedies and intense melodramas were all written and presented. The absence of scenic effects was made up by a versatile histrionic technique. The ancient Indian theatre was a very elaborate affair. The theatre halls were carefully constructed and decorated according to traditional rules of architecture. A theatre of medium size, according to Bharata, could accommodate 400 spectators. Some of the stages had two storeys, the upper storey being for the representation of action in the celestial sphere and the ground storey for that in the terrestrial sphere. Masks were not used, and the most subtle interplay of emotions was conveyed through facial expressions, gestures and speech. The adroit employment of the curtain made for heightened impact. Kalidasa's *Sakuntala*, Shudraka's *Mrichhakatika* (The Little Clay Cart) and Visakhadatta's *Mudrarakshasa* are some of the great plays of Sanskrit literature.

With the passing of the early Hindu kingdoms and the invasion of the North through Afghanistan, the dramatic

tradition almost died in North India. But it continued to thrive in South India and south-east Asian countries, where it survives even today. In the North, operatic plays performed by village bands became popular. Sanskrit plays continued to be studied in schools, but were rarely, if ever, staged. In the operatic plays, the compact construction and consistent characterisation of Sanskrit drama were replaced by haphazard stringing together of incidents and farcical devices. Embodying mythological themes, they were either improvised by amateurs or performed by itinerant professionals. They were enacted in the open. The play started at nightfall and ended in the small hours of the morning. Even today, the mediaeval tradition survives in the people's preference for characters and incidents from the *Mahabharata* and the *Ramayana*, and their love of music and song.

THE MODERN THEATRE

In the later part of the 19th century, the Indian theatre came under European influence. Calcutta led the way with scenes from Shakespeare. The first English theatre in Calcutta became possible owing to the generous help of Dwarkanath Tagore, grandfather of the famous poet. In the hands of playwrights like Madhusudan Dutt and Jyotirindranath Tagore, who adapted freely from Greek, English and French sources, the Bengali stage assimilated Western influence. In 1872, Girishchandra Ghosh organised a National Theatre which, along with similar societies, staged adaptations from Indian and English classical sources as well as historical and social plays. Later, plays by Rabindranath Tagore and Dwinjendra Lal Roy dominated the Bengali stage. About the same time, Parsee pioneers laid the foundation of the modern Gujarati and Urdu theatres.

Though the Nautanki and the Raas were popular in the Hindi-speaking areas, Hindi did not have a theatre as such. This can be ascribed to the fact that the Mughals, who en-

couraged the other arts, did not approve of the drama for religious reasons.

The development of the modern drama movement in Hindi began with Bharatendu Harishchandra during the last decades of the 19th century. His best known plays, which enjoy great popularity even today, are *Satya Harishchandra* and *Bharat Durdasa*. Between 1900 and 1925, the playwrights who dominated the field of drama were Agha Hashr Kashmiri, Pandit Radhye Shyam Pathak, Narayan Prasad 'Betab', Tulsi Datt 'Shaida' and Hari Krishna 'Jauhar'. Most of their plays were written for the Parsee theatre. In more recent years, the influence of Jayashankar Prasad has been pronounced. Dramatic activity in Hindi is increasing both in volume and in quality.

The modern Maharashtra stage, which celebrated its centenary a few years ago, is noted for its robust realism and its reformist zeal. Some of the great names in Marathi drama are Kirloskar, Deval and Khadilkar. Among other pioneers of the dramatic revival are Ranchhodbhai and Nanalal Kavi in Gujarati, Veerasalingam, Guruzada Appa Rao and Bellary Raghavachar in Telugu, Santakavi, Varadachar and Kailasam in Kannada, Laxminath Bezbarua in Assamese, Kerala Varma, Thampuran and C. V. Raman Pillai in Malayalam, Ramsankar Rai and Bhikaricharan Patnaik in Oriya and P. Sambanda Mudaliar in Tamil.

During the last few decades, the cinema has elbowed out the theatre as the main medium of popular entertainment. although amateur groups have served drama faithfully and boldly. Colleges and intellectual groups stage famous foreign plays in the larger cities. There are vigorous theatre movements and organisations like the Indian National Theatre, the Indian People's Theatre Association and the Theatre Centre. All India Radio has done much to popularise drama Open-air theatres are being established in rural areas to provide facilities to the people to stage drama, dance and

other cultural activities. Since the introduction of the scheme, 266 theatres have been sanctioned in various States.

SANGEET NATAK AKADEMI

The progress achieved in the revival of dance and drama during the years since the achievement of freedom is in part due to the efforts of the Sangeet Natak Akademi and the financial help given by the Central and State Governments.

The Sangeet Natak Akademi, inaugurated in 1953, encourages setting up of theatre centres and training institutions, organises seminars and festivals, awards prizes and fosters cultural exchange. It is also organising libraries of records, books and films relating to the fields of its activity.

The Akademi maintains close liaison with the institutions it has recognised and with affiliated regional akademis now functioning in Andhra Pradesh, Assam, Gujarat, Jammu and Kashmir, Kerala, Madhya Pradesh, Madras, Mysore, Orissa, Rajasthan, Punjab and Uttar Pradesh. These regional akademis are collaborating with the national organisation in surveying the various art forms in the country. Drama competitions are organised by the Akademi to encourage dramatic activity in general and the writing and production of new plays in particular.

There are two training institutions being run by the Akademi—the National School of Drama and the Asian Theatre Institute at New Delhi and the Manipur Dance College at Imphal. The Akademi makes annual awards to outstanding artists in the fields of dance, drama and music.

CHAPTER XVIII

MASS COMMUNICATION

BROADCASTING

Broadcasting in India was first undertaken by a private company in 1927. Three years later, the Government of India assumed direct responsibility for broadcasting.

All India Radio, which is a Division of the Ministry of Information and Broadcasting, has 110 transmitters at 51 stations; some of the stations with more than one channel provide alternate programmes. These together cover all the States and broadcast programmes for all the linguistic regions of India totalling 21,36,140 programme hours in a year. The number of transmitters is being further increased.

TELEVISION

All India Radio's Television Service was inaugurated in September, 1959 in Delhi. Initially, its programmes were designed primarily for community viewing in tele-clubs and for educational programmes for schools in and around Delhi. There are 184 tele-clubs catering to a large audience in the Delhi region. The School Television Section puts out regular programmes for schools in selected subjects. According to an estimate, about 96,500 students view science lessons, 35,000 students take lessons in social studies and 72,500 students constitute the audience for English lessons.

A daily television programme was introduced in Delhi in August 1965 and is put out on week-days from 6.30 p.m. to 8.00 p.m. On Sundays, the programme lasts from 6.30 p.m. to 8.30 p.m. On occasions like the Republic Day, international conferences and sports meets, special programmes are directly telecast. The daily programme generally includes

news, light entertainment, education in health, hygiene, agriculture, gardening, and other subjects of popular interest. There are special programmes for children and women. Indian and foreign documentaries and newsreels are also shown. Entertainment is provided through serial plays, feature films, stories, music and dance.

The Government has approved a plan for the expansion of the Television Service which will cost Rs. 100 crores over a period of 25 years. It has been decided to set up television stations at four centres in the country. These new stations will be located at Calcutta, Bombay, Madras and Kanpur.

Programme Policy

In planning its programmes, All India Radio is guided not only by the tastes and preferences of listeners, but also by the important objectives which a national broadcasting organisation has to pursue, namely, information, education and entertainment. It does not, at present, broadcast sponsored programmes, but the Government has recently taken a decision to introduce commercial broadcasting.

All India Radio has become a major influence in the cultural life of the country. It has played an invaluable role in conserving the folk forms of music and in furthering a musical and literary renaissance.

Besides the programmes in major Indian languages, it broadcasts programmes in 87 tribal dialects. News bulletins are broadcast in 29 Indian and foreign languages.

Broadcasts in the external services of AIR cover 20 languages.

Vividh Bharati

An all-India light variety programme of 12½ hours is broadcast in four transmissions on all days of the week. Besides being broadcast over two powerful short-wave transmitters from Bombay and Madras, Vividh Bharati programmes are now available on the medium-wave from 26 centres in various parts of the country.

Special Audience Programmes

All stations of AIR broadcast rural programmes that deal with all aspects of rural life and provide useful information to villagers. Radio Rural Forums provide listening-*cum*-discussion-*cum*-action group programmes through which a two-day contact between the broadcaster and the listener is established.

Educational programmes for schools are at present broadcast from 25 stations. Programmes addressed to students of universities consist of talks and discussion on subjects of academic interest. Special programmes for women and children are broadcast from all stations generally twice and from some stations thrice a week.

Programmes for industrial workers are broadcast at convenient timings from the major stations of AIR. They are meant to provide information and entertainment for industrial workers.

Programmes for the Armed Forces are broadcast daily from Delhi, Srinagar, Jammu, Bhuj, Rajkot, Ahmedabad, Gauhati and Siliguri as also in the Vividh Bharati service.

Exchange of recordings between AIR stations and foreign broadcasting organisations, particularly those of Britain, Australia, Japan, the USSR and the United Nations Organisation, is done through a special unit. A Transcription Service, started in 1954, maintains a central library of recordings.

MOTION PICTURES

India is one of the leading film-producing countries of the world, with as many as 260 producing concerns, about 1,200 distributing agencies, 70 studios and nearly 4,300 cinema houses (including about 500 touring cinemas). More than 300 feature films are produced in various languages each year. This is in addition to about 800 shorts that are made every year.

The film industry employs about 1,00,000 people. The capital invested exceeds Rs. 40 crores and the pictures produced every year are estimated to bring in a gross revenue of Rs. 25 crores. The average cost of production of an Indian film is anything between Rs. 3,00,000 and Rs. 5,00,000. A successful picture may earn about Rs. 10 lakhs. On the average, the industry provides Rs. 12 crores to the national exchequer every year by way of censorship fees and entertainment and income taxes.

The Film Institute of India, established by the Ministry of Information and Broadcasting, provides all-round technical training in the various aspects of film production and facilities for research in film techniques.

State Awards for films of a high aesthetic and technical standard and of educative and cultural value have been a regular annual feature since 1954. Cash awards were also introduced in 1958. Leaders of the film world figure among distinguished citizens who are awarded national honours by the President.

Many feature films produced in India have won awards at international festivals. Some of them are : Satyajit Ray's 'Pather Panchali', 'Aparajito', 'Apur Sansar', 'Maha Nagar'; Shanta Ram's 'Do Ankhen Barah Hath'; K. A. Abbas's 'Munna'; Bimal Roy's 'Do Bigha Zamin'; and Raj Kapoor's 'Awara', 'Boot Polish' and 'Jagte Raho'.

India herself has till now conducted three international film festivals, the latest (1965) being a competitive one. In this festival, the Golden Peacock for the best feature film was won by 'Gamperalia' from Ceylon and that for the best short film by 'Cyclone' from Cuba. The Silver Peacock for the best actor was awarded to Yevgeny Leonov of the USSR for his performance in the film 'A Tale of the Don'. The Bronze Peacock was won by 'Janosik' (Czechoslovakia) for its excellence in colour photography. The

Polish short film 'Matter' was also awarded the Bronze Peacock.

Under the Indo-UAR Cultural Programme for 1965-66, a festival of Indian films was organised in Cairo, Alexandria and Damanhour in November, 1965. Similarly, a festival of UAR films was held at Bombay, Delhi and Calcutta from December 1965 to February 1966.

Documentary films and newsreels are produced mainly by the Films Division of the Ministry of Information and Broadcasting. It had produced 907 newsreels and 811 short films for exhibition till the end of 1965. The shorts and newsreels are produced in 13 languages.

The Films Division has won a total of 246 awards in national competitions and international festivals. Some of its documentaries like 'Radha and Krishna' have won awards all over the world. A cartoon unit has also been set up in the Films Division.

A Children's Film Society was set up in 1955 to sponsor the exhibition of films suited to children and also to produce such films. The Society's film 'Jaldeep' was adjudged the best children's film at the International Film Festival at Venice in 1957. Another film, 'Savitri', was awarded a Certificate of Merit at the Vancouver International Film Festival, 1962.

The Central Board of Film Censors, with its head office in Bombay, was constituted in 1951 for certification of films throughout India. The Board has regional offices at Bombay, Calcutta and Madras and is assisted by advisory panels of prominent citizens. The main aim of censorship is to discourage crime, vice, immorality, indecency, incitement to disorder, violence and breach of law.

THE PRESS

India has a free and vigorous Press. As many as 8,161 daily newspapers and periodicals are published in all the 14

languages of India recognised by the Constitution and in other languages like Sindhi, Manipuri, etc. The Registrar of Newspapers for India maintains a record of all newspapers and prepares an annual report on the various aspects of the development of the Press with particular reference to trends in circulation and in the direction of common ownership.

According to the report for 1964, the total circulation of newspapers and periodicals is 207.44 lakhs. The English language claims the largest circulation. Hindi has the largest number of dailies, 149, followed by Urdu 68, English 56, Marathi 41, Kannada 36, Malayalam 35, Gujarati 34, Tamil 28, Punjabi 17, Telugu 13, Bengali 7, Oriya 4 and Assamese 1.

The readership of dailies in India works out to 12.3 per thousand of population, while it is 50.6 for all papers.

The Press Trust of India is the major news agency in the country. It is incorporated as a trust and is owned by newspapers. Foreign newspapers and news agencies are represented in India by more than 150 correspondents and cameramen. Indian newspapers and news agencies also have staff correspondents abroad.

Information regarding policy, plans, achievements and other activities of the Government of India is made available to the Press in English and other Indian languages by the Press Information Bureau.

The important organisations connected with the Press in India are the Indian and Eastern Newspapers Society which is an organisation of publishers; the Indian Federation of Working Journalists; the All-India Newspaper Editors' Conference and the Audit Bureau of Circulations.

A Press Consultative Committee, with the Minister of Information and Broadcasting as Chairman, maintains close liaison between the Government and the Press on matters of common interest.

As provided under the Press Council Act, 1965, a Press

Council has now been set up with the object of preserving the freedom of the Press and maintaining and improving the standard of newspapers in the country.

Press Laws

Article 19(1) of the Constitution guarantees "the right to freedom of speech and expression" to all citizens. This has been interpreted by the courts to include freedom of the Press. Parliament can enact legislation reasonably restricting the freedom of expression "in the interests of the security of the State, friendly relations with foreign States, public order, decency or morality, or in relation to contempt of court, defamation or incitement to an offence". There are four main Central Laws relating to the Press: (i) The Press and Registration of Books Act, 1867; (ii) The Working Journalists (Conditions of Service) and Miscellaneous Provisions Act, 1955; (iii) the Delivery of Books and Newspapers (Public Libraries) Act, 1954; and (iv) The Parliamentary Proceedings (Protection of Publication) Act, 1956. The Working Journalists Act was amended in 1962 to provide for payment of gratuity to a working journalist if he voluntarily resigns on any ground whatsoever after a total service of ten years and also on ground of conscience if his total service is not less than three years. It also provides for the setting up of wage boards for journalists from time to time.

Indian Institute of Mass Communication

An institute has been sponsored by the Government for advanced study in mass communication. Its purpose is to provide facilities for training, research, consultation and reference service. The Institute was inaugurated on the 17th of August, 1965.

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CHAPTER XIX

HANDICRAFTS AND THE FOLK-ARTS

Spinning, weaving and dyeing are among the oldest and best known of Indian handicrafts. Although a highly organised textile industry exists in India today, the handloom industry employs 50 lakh persons, or nearly as many as are employed in all other organised industries combined. They produce materials of attractive designs and colour schemes. Even in very early times, Indian brocades and muslins were sold in the markets of Asia and Europe. Cotton fabrics have been found in the ruins at Mohenjo-daro and the painted figures of Ajanta are shown draped in silks and muslins.

Kimkhabs are silk fabrics which are embroidered with gold or silver thread to produce striking patterns. The moon and stars and the peacock's head are some of the more popular motifs used in these brocades. Though crude machines are employed to draw out the metal, the wire is thinner than the human hair. Varanasi (Banaras) in Uttar Pradesh, Murshidabad in Bengal, Ahmedabad and Surat in Gujarat and Tiruchirapalli in Madras are famous centres of brocade weaving.

Mysore produces georgettes, chiffons and tissues of high quality. Kashmir also makes a variety of silks. *Saris,* in a multitude of pleasing patterns, are woven in Murshidabad. Surat specialises in silks and satins, while Rajasthan makes very fine gauze which women use for *dupattas*. This piece of colourful cloth adds charm and grace to the bright costumes of women in the North.

The principal weaving centres for fine cotton fabrics, during the mediaeval period, were Dacca, Masulipatam and Patan, noted respectively for muslin, chintz and *pitambar*. The

most famous weavers were those of Dacca, and their muslins are said to have been as fine as a spider's web.

Handloom-weaving is still a flourishing industry in many States. The fine *khes*, used as bedsheet and cover, and *lungi* (a broad-checked man's dress tied round the waist for informal use) is made in the Punjab; *Jamdani* (figured muslin) is a speciality of Bengal. Cotton shawls are woven in Assam and Manipur. Examples of beautiful embroidery work are the *muga* silks of Varanasi, the satin-stitch *phulkari* of the Punjab and the *kanthas* of Bengal.

The Indian dyer has a passion and genius for colours. From the saffron-coloured, pleated skirts worn by the women of the Rajasthan area to the glowing reddish browns of the Kumbi women of the Deccan, everywhere is seen the perfection of the dyer's art. The process of making the *patola* silk of Baroda is as complicated as it is fascinating. The technique of 'double-tied resist dyeing' (*bandhani*) is used and, before weaving, the warp and weft are dyed separately according to a pre-selected pattern. The favourite colours are soft or deep-toned madder red, golden yellow, jet black and sometimes bottle green. The rhythmic design and characteristic blending of colours have a very pleasing effect. This technique of tie-and-dye is used for muslins, chiefly in Jodhpur and Jaipur.

Calico-printing is a widely practised art in India. The satin-prints and shawls of Lucknow, Kannauj and Farrukhabad and the printed *saris* of Amritsar are good examples. The calicos of Jammu are of Persian design and are used mostly as wall drapings, floor coverings and canopies. Jaipur fabrics are dyed on both sides, with the patterns so cleverly printed that they do not have any 'wrong' side. Jodhpur calicos are cut into strips and sewn together to make skirts for women in Rajasthan.

The chief woollen fabrics of artistic merit are those made of *pashm* wool, called *pashmina*. Kashmiri shawls

are famous for their delicate workmanship. The very name 'Cashmere' denotes the finest of woollens.

Carpets

Carpet-weaving is another ancient Indian industry. Besides Kashmir, Amritsar, Jaipur, Bikaner, Agra and Warangal in Andhra Pradesh are also well known for their beautiful carpets. The carpets from Mirzapur have behind them a tradition of skill going back to the days of Akbar. Quality wool is washed, teased, carded and then spun by hand. The skeins of wool are usually dyed in vegetable colours. The carpet loom has a vertical warp of cotton thread, to which knots of woollen yarn are tied in a particular design. The eye cannot follow the amazing quickness with which the weaver ties the knots. The design is drawn on a graph sheet and the instructions are sung while the carpet is woven. After a row of knots has been tied, the uneven pile is clipped with a pair of scissors to give it uniformity and a smooth touch. Sometimes, weavers may take more than a week to finish one yard of a carpet of exceptional quality.

Metalwork

The South perfected the art of casting copper and bronze more than twelve centuries ago. The striking bronzes of South India were inspired by Saivism, and the alloy originally used was of gold, silver, copper, lead and tin. Hyderabad excels in *bidri* ware—metal pots and jugs inlaid with silver. Apart from the variety of designs, the beauty of *bidri* ware lies in the striking contrast between the black base and the inlaid metal. The art of enamelling on metal, known as *minakari*, flourishes in Varanasi, Delhi, Lucknow, Rampur, Alwar and Kashmir, while Jaipur produces the best enamelled jewellery. In these places, the metal is chased before it is damascened. The *repousse* method is preferred in Kashmir.

Engraved brassware with flowers, landscapes and jungle scenes as motifs comes chiefly from Jaipur, Moradabad and Varanasi. Among the various styles in use for embellishing gold and silverware, the *swami* style is the most important. It is composed of mythological medallions and canopied niches in imitation of the encrusted style of work characteristic of South India. An interesting branch of the goldsmith's craft is filigree work, for which Cuttack is famous.

Inlay and *jali* work in marble are among the more important stone-carving crafts of India. The Taj Mahal is the most outstanding example of the Mughal art of inlaying marble with semi-precious stones, such as agate and jasper. Samples of intricate *jali* (pierced stonework) in marble and sandstone are to be found in many parts of India. Popular utility articles made of stone are wall-brackets, flower vases, candle-sticks, chains, lamp-posts, etc., using sandstone, marble, alabaster, soap-stone and pebbles. In Jaipur, dagger-handles, beads, buckles and necklaces are made from rock crystals. In Kashmir, turquoise is used extensively to make jewellery. Green jade is used in making chess tables, *surahis* (water pots) and tumblers.

POTTERY

The ornate pottery of Gwalior and Khurja is elegant and inexpensive. The pots from Alwar, made of fine clay, are so thin that they are called *kaghzi* (meaning paper-like). In Aligarh pottery, the design is moulded on the wet cla-surface with the fingers before it is fired. Azamgarh, Ratnagiri and Madurai are best known for their black pottery. Painted pottery is produced largely in Kotah, Lucknow, Jullundur and Salem. Khurja and Rampur produce glazed rose-bowls, dishes, pitchers, etc., of deep blue with the pattern moulded on the surface.

Of painted pottery, there are two varieties. One is painted or stained before firing, and the other painted, or

lacquered or stained after firing. In Madurai, the stained surface is smeared with lac.

Shantiniketan is producing paintings in dark colours on brown glazed pottery. It is reviving some of the old motifs, such as the fish, the swastika and the crab.

Wood

Kashmir in the north, Mysore and Kerala in the south and Rajasthan and Gujarat in the west have their characteristic designs of wood-carving. The walnut woodwork of Kashmiri craftsmen is highly intricate and elaborate. They make folding screens, tables, cabinets and picture-frames. Sandal-wood is used in Mysore to make highly ornate articles of common use. Flowers, animals and deities are the motifs usually employed, and the smallest miniature is as sharp and vivid as a life-size sculpture. At Hoshiarpur (Punjab), wood is inlaid with ivory and *shisham* wood with brass. In Manipur, copper and brass wire is used for inlaying.

The beautiful and artistic craft of *nirmal* is a novel form of painting on wood which has the finish and quality of lacquer. It dates back 400 years. *Nirmal* objects combine intricate traditional designs with graceful form and vivid colours.

Ivory

The tusk of the elephant, even more than wood, is an ideal medium for the carver's art. The ivories of Kerala and Mysore are characterised by intricate and delicate craftsmanship. The ivory idols of gods and goddesses succeed in catching the authentic moods and expressions of those legendary figures. Finely carved ivory articles are also made at Murshidabd, Cuttack and Delhi, and in Punjab and Rajasthan. One of the striking ivory panels produced in South India has found a place in the National Museum of Florence. Utility goods made of ivory, such as, combs, caskets, cigarette

boxes and chess-men are to be found in shops all over India. Exquisite examples of inlaid ivory may be seen in the Golden Temple at Amritsar.

Other Handicrafts

Made of painted clay or wood, metal or cloth, toys are the essence of folk-art. The skilful potter makes quaint toys for the village fair. Richly dressed cloth dolls made by women are used in marionette shows, which are a feature of Indian village life. Their bright trappings and durability make cloth toys popular everywhere. Excellent painted toys of baked clay are made in many districts of Madras, Bengal and Uttar Pradesh, while wooden and metal toys are produced in all parts of India. Some well known toy centres are Krishnagar in West Bengal and Kondapalli in Andhra Pradesh.

Making gold and silver jewellery, patterned exquisitely and studded with diamonds, rubies, and other precious stones, is an ancient art in India and each State has its characteristic designs and patterns.

Beautifully painted papier-mache products, such as, bowls, powder-boxes, trays, vases and lamp-shades are made in Kashmir.

CHAPTER XX

FESTIVALS

Ranging from austere fasts to exuberant fairs, the festivals of India are as varied and colourful as its people. Since each religious group has its own particular observances and celebrations, the total number of festivals is very large, the Hindus alone having some seventy. Only a few, however, are observed throughout the country to the same degree.

Hindu festivals are of four kinds : festivals proper, *vratas* (fasts), *jayantis* (birthdays) and *melas* (fairs). The more important of the festivals are Divali, Basant Panchami, Rakshabandhan, Dussehra and Holi.

Deepavali or *Divali,* the festival of lamps, is the most spectacular. It usually falls in October or November, the date varying from year to year. In the North, it is celebrated as the home-coming of Rama, the hero of the epic *Ramayana,* after he had defeated the demon-king Ravana. In the South, it is associated with the legend of the demon, Narakasura. Divali is an occasion for great rejoicing. Houses are painted over, new clothes bought and a variety of sweets prepared. Visits are exchanged between friends and relations and gifts are given and taken. In the evening, rows of earthen lamps are lit, and house-fronts and roof-tops are decorated with them. Merchants open new books. Children buy crackers, squibs, catherine wheels and other fireworks. In the evening, the family gathers in the best room of the house and performs the Divali *puja,* when prayers for success and prosperity are offered to Lakshmi, the Goddess of Wealth. Bengalis devote this day to Kali Puja.

Basant Panchami marks the first day of spring. Men wear yellow turbans and women don yellow *dupattas* and *saris,*

while children fly yellow kites. It was on this day, according to legend, that Shiva reduced Kamdeva, the God of Love, to ashes with one glance from his omnipotent third eye. Bengalis worship Saraswati, the Goddess of Learning, on this day.

Rakshabandhan or *Rakhi* commemorates the occasion when Sachi, wife of Indra, tied a sacred thread round her husband's wrist after he had been defeated by the *asuras* (demons). This amulet gave him added strength and power so that he returned to the fight and triumphed.

On this day, sisters tie amulets of coloured thread round their brothers' wrist. The brother receives sweets from his sister and reciprocates by giving her a present in cash. The sister symbolically places her honour in her brother's keeping and he in turn pledges to protect her.

Dussehra celebrations take different forms in different parts of the country. In North India, episodes from the *Ramayana* are staged for a few nights preceding Dussehra. Each area of the city erects its own make-shift stage to present scenes from the *Ramayana* with local residents making up the cast. On the evening of Dussehra, a big fair is held and large effigies of the demon-king Ravana and his minions are burnt amidst great jubilation.

Dussehra in South India is a nine-day festival, Navaratri, during which every house exhibits tiers of little dolls. In the evening, visits are exchanged and everyone keeps an open house. Puja is offered to the goddesses Lakshmi, Saraswati and Durga on various days. Tools and implements are worshipped on the ninth day. The tenth day is designated as Vijaya Dasami or the day of victory.

Mysore is famed for its Dussehra festivities culminating in a colourful procession. In Bengal, the festival is called Durga Puja. It is celebrated for four days. After the last day, an image of the goddess Durga seated on a lion is taken out in procession and immersed in a river. This ceremony symbolises the home-coming of Durga (Shiva's

consort) and her subsequent return to her Lord. The Dussehra of Kulu Valley is a noted occasion for folk dances.

Holi, which falls in March, is an occasion for boisterous fun, marked by the squirting of coloured water. In the evening, folk songs are sung at gatherings round huge bonfires.

Other important festivals are Shivaratri, Baisakhi, Nag Panchami (the festival of the serpents), Ganesha Chaturthi (the festival of the 'elephant-headed' god) and Janmashtami or Gokul Ashtami (birthday of Krishna). Very popular in every part of India are harvest festivals. Pongal of Madras, Sankranti of Andhra and Mysore areas and Bhogi of Maharashtra all coincide with Makar Sankranti (January 14). The Bhogali Bihu of Assam is a harvest festival of great charm. Of the regional festivals, the Onam of Kerala is celebrated for four days with colour, feasting, boat races and songs.

MELAS

Besides fasts and festivals, there are *melas* or religious fairs. Chief among these is the Maha Kumbh Mela, which is held at Hardwar, Allahabad (Prayag), Ujjain and Nasik by rotation, each place having it after twelve years. Certain days during the Mela are considered auspicious for bathing in the river. These fairs attract hundreds of thousands of people from all over India.

Somewhat similar to the Kumbh Mela of North India is the Mahamaham in the South. This is held at the sacred spot of Kumbakonam.

The Car Festival of Lord Jagannath at Puri and the Brahmotsavams at Tirupati, Srirangam, Kanchipuram and other southern pilgrim centres are the most popular of the temple-festivals.

Other Religious Days

Muslim festivals, though fewer in number, are celebrated with much zest and devotion. Id-i-Milad, Id-ul-Fitr and Id-u'z-Zuha are the more important ones.

Id-i-Milad is the Prophet's birthday and also the anniversary of his death, while Id-ul-Fitr marks the end of Ramzan, the month of fasting. Id-ul-Zuha commemorates the triumph of Hazrat Ibrahim, who was ready to sacrifice his son Ismail at the altar in response to the command of God. On these three festivals, new clothes are worn and food and sweets distributed among the poor. Congregational prayers are offered in the mosques.

Muharram is observed mainly by Shia Muslims in memory of the martyrdom of Hazrat Hussain, a grandson of the Prophet. The Shias go into mourning for a period of ten days, at the end of which a symbolic funeral procession is taken out.

The principal Christian festivals are Christmas and Good Friday. In India, they are celebrated with great zeal, and non-Christians also take part in the festivities.

Vaisakha Poornima, the day thrice-sacred to Buddhists, is celebrated by all people and is a public holiday. Jains have many sacred days of which Mahavira Jayanti is the most important. The anointing of the gigantic statue of Gomateswar at Saravanabelgola in Mysore State, which is held once in twelve years, draws a huge gathering of devout Jains and others. The Sikhs have several sacred days especially set apart for the Gurus. There are three important Parsee festivals—Jamshed Navroze, Pateti and Khordad Sal (birthday of the Prophet Zarathustra).

National Festivals

Some national festivals have now been added to the list of traditional and religious days of rejoicing. Independence

Day is celebrated every year on August 15 and Gandhi Jayanti (the birthday of Mahatma Gandhi) on October 2. On January 26 is celebrated Republic Day, commemorating the adoption of India's Constitution in 1950 when India was declared to be a "Sovereign, democratic republic".

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